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The Transmutation of the Atom

By LORD RUTHERFORD, O.M., F.R.S.

Lord Rutherford, who is Cavendish Professor of Experimental Physics at Cambridge, and Chairman of the Advisory Council of the Department of Scientific and Industrial Research, broadcast the thirteenth National Lecture on October 11

THE possibility of the transmutation of one kind of matter into another has always exerted a strong fascination on the human mind since the early days of science. During the past thirty years, I have been actively engaged in investigations on various aspects of this question, and I shall try to give you here a brief account of the essential nature of the problem of transmutation and of the methods that have been devised to extend our knowledge. It is a problem that is attracting much attention in the scientific world today, and during the last decade there has been a vigorous and sustained attack on it. Experiments, some on a large and costly scale, are now being carried out in many laboratories throughout the world to advance our knowledge.

The first successful experiments in transmutation are comparatively recent, dating back to the year 1919, but in a sense the problem is a very old one and has been the subject of much thought and investigation from the time when science was in its infancy. You have all heard of the alchemists, who were in fact the first chemical investigators, and the search for a substance called the philosopher's stone whereby it was hoped one element could be changed into another. Looking back from the standpoint of our knowledge today, we see that there was no hope of success in this quest with the limited laboratory appliances and methods available in those days, and that the experimental evidence brought forward in its support

was of a very doubtful and meagre character. However, the persistence of this idea through the centuries was mainly due to a philosophical conception of the nature of matter, based on the writings of Aristotle, which had a very great influence on the outlook of the intellectual world in the Middle Ages. According to Aristotle, all matter consisted of a fundamental substance, primordial matter, together with a mixture of the four elements called earth, air, fire and water. One substance differed from another only in the relative combination of these hypothetical elements. On these views, it appeared almost self-evident that one substance could be changed into another if only a suitable method could be found to alter the amount of one or more of these constituents. Naturally, the hope of changing the base metals into the noble element gold assumed a prominent place, and from time to time men arose who claimed that they had discovered the secret of changing copper, lead or other metals into gold. In times of monetary stress, these alchemists were often employed by rulers to restore the finances of the state by making gold. They often succeeded in making a substance that had the appearance of gold, but in general the net result of their experiments was a debasement of the coinage. Even after the possibility of producing transmutation by ordinary laboratory methods had long been exploded, the old ideas persisted in the general mind, so that even today impostors or deluded men occasionally appear who claim to have a recipe for making gold, but the only gold they make is extracted from

the pockets of their credulous supporters. The poverty of imagination of this class of charlatan is shown by the fact that they have not at once claimed to produce instead of gold the more rare and costly elements like platinum and radium.

The great work of the chemists of the nineteenth century had shown that matter could be resolved into eighty or more distinct elements, and that the atoms composing each of these elements appeared to be indestructible and unchangeable under the action of the physical and chemical forces at their command. The ancient notion of transmutation proved impossible to realise until new and more powerful methods were available. At the same time it became clear from general chemical evidence such as is embodied in the Periodic Table of the elements, that the atoms of the elements are not unrelated but must possess in some respects very similar structures. This idea received strong support from the fundamental discovery of the electron in 1897, mainly due to the work of Sir J. J. Thomson. The electron, which carried a negative charge of electricity, was found to have a minute mass—only about $1/1840$ of the mass of the lightest atom hydrogen—and to be a constituent of all atoms. One or more of these light electrons could be struck out of the atom either by the action of swift particles or by ultraviolet radiation or X-rays. The resulting atom acquired a positive charge and had different properties from the neutral uncharged atom. The change of properties was, however, only momentary, for in a very short interval another electron fell into the atom

and filled the vacant place, and the atom was restored to its original state. General evidence indicates that it is impossible to cause a *lasting* transmutation of the atom by removing or adding electrons to the outside of the atom. Whatever effect is produced by such action is only of a fleeting character and has no permanent effect on the structure of the atom.

The discovery of the radioactivity of uranium by Becquerel in 1896 was another landmark in the history of our subject. The experiments of Rutherford and Soddy in 1903 showed clearly that radioactivity was a direct manifestation of atomic instability. It was shown that occasionally an atom broke up with explosive violence, hurling out with great swiftness either a massive particle called the α -particle, or a swift electron of light mass called the β -particle. As a consequence of this explosion, the residual atom had entirely different physical and chemical properties from the parent atom. It was found that the successive transformations of the two elements uranium and thorium gave rise to thirty or more new elements which had radioactive properties. Radium is the best-known example of these many elements which originate from the successive transformations of the element uranium. The then rare gas helium was found by Ramsay and Soddy to be generated by the transformation of the radium atoms, and we now know that this helium arises from the α -particles which are charged helium atoms expelled from the exploding atom. The study of the swift α - and β -particles and the penetrating X-rays, brought out

clearly the extraordinary intensity of these atomic explosions, in which energy was emitted of the order of one million times that generated by a combination of two atoms in the most violent explosive known.

This transformation of the radioactive atoms is spontaneous and uncontrollable; neither extremes of heat or cold have any effect on the rate of transformation or on the energy of the expelled particles. At the moment, no definite explanation can be given why the atoms of uranium break up. We have to regard their transformation as a natural process which is governed by the laws of chance. This property of spontaneous transmutation is most strongly shown by the two heaviest known elements, uranium and thorium, and the radioactive elements which arise from them. Only three other elements have shown this property, and then only to a minute degree compared with uranium or thorium. All the rest of the elements appear to be permanently stable under normal conditions on the surface of our earth; it seems, therefore, that the idea of the immutability of the elements is true under normal conditions for the great majority of our elements.

A further attack on this problem had to await a better

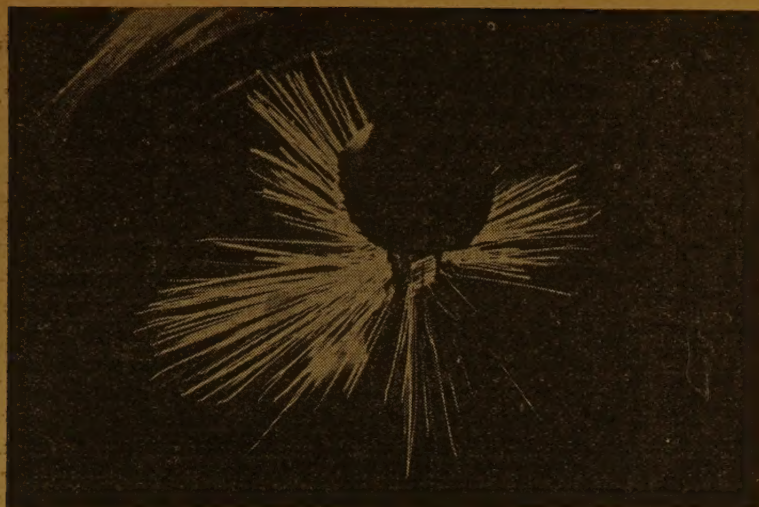
understanding of the essential structure of all atoms. It is now clear that all the atoms of the elements are in a sense electrical structures built on the same general pattern. At the centre of each atom is a minute but massive nucleus which has a resultant charge of so many units of positive electricity varying from 1 to 92 for the various atoms. At a distance from the nucleus is a distribution of negative electrons in whirl-



The Alchemist in his laboratory—a wood-engraving attributed to Holbein

ing motion, whose number is equal to the number of positive charges carried by the nucleus. It must be borne in mind that the radius of the nucleus, supposed spherical, is extremely minute and in general less than one ten-thousandth part of the radius of the atom as a whole. Yet this diminutive nucleus not only contains nearly the whole mass of the atom, but through its nuclear charge controls the number and motions of the external or planetary electrons, as they have been termed from analogy with our solar system. Since the ordinary physical and chemical properties of an element are determined by the charge on the nucleus and not by its mass, the atoms of a given element may not be all identical in mass or weight, although they must have an identical charge on each nucleus. We now know, largely through the work of Aston, that most of the ordinary elements are composed of a mixture of atoms of different masses called isotopes. For example, the atoms of the light element lithium—which, we shall show later, can be disintegrated by certain agencies—consist of two isotopes, of masses 6 and 7 times the mass of the hydrogen atom, the isotope of mass 7 being more abundant. We shall see that this isotopic constitution of many elements has to be taken into account in interpreting the types of transformation that can be effected. For example, while one isotope may be readily transmuted, the other isotope may be either unaffected or transformed in a different way.

The broad features of the constitution of all atoms are now well established. As a result of the splendid

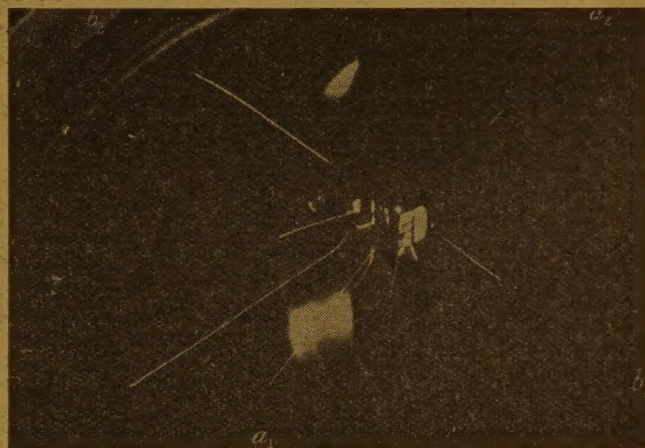


This photograph shows many straight tracks of helium atoms, emitted from a lithium target bombarded by protons, corresponding to the disintegration of a large number of atoms of lithium

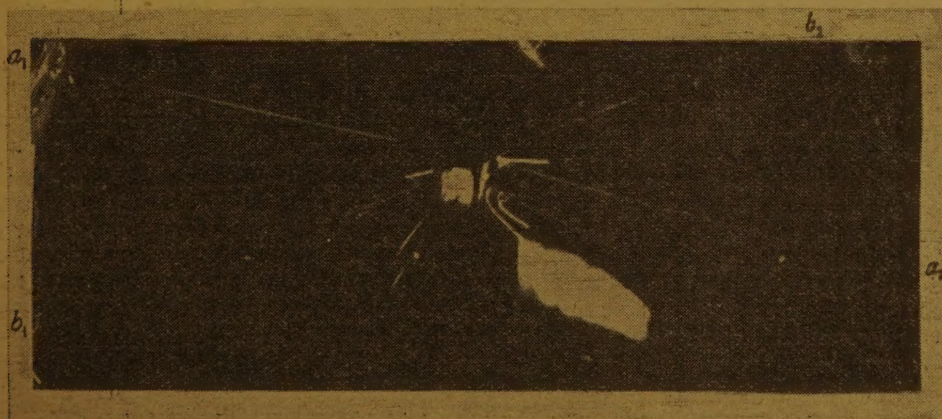
work of Bohr and those who have followed him, we are able to understand the arrangement and motions of the planetary electrons and the way in which light or X-rays are emitted when the atom is disturbed. Unfortunately we have much less information about the constitution of the minute central nucleus. We know the value of the nuclear charge and the mass of each atom, but we have no precise information on the nature and arrangement of the particles composing it. Until a year or so ago, it was generally supposed that the nucleus of an atom was ultimately composed of two electrical units, the negative electrons of small mass and the positively charged protons of mass 1. At the same time it became clear that secondary units were also present and that the helium nucleus of mass 4—the α -particle—played a prominent part. Recently, however, we have had to extend our views, for undoubted evidence has been obtained of the existence of a new type of particle called the neutron which has a mass about 1 but no electrical charge. At the same time, the discovery this year of what is believed to be the positive electron of light mass—the counterpart of the negative electron—has complicated the problem. However, we may, I think, assume with some confidence that the nucleus of a heavy atom is in general composed of a large number of particles, some charged like the α -particle and proton, and others like the neutron electrically neutral. These are held together by powerful forces in an extraordinarily minute volume and form a very stable structure. We have, however, little to guide us in seeking a more detailed knowledge of the number, arrangements and motions of these constituent particles.

the nucleus is a strongly guarded structure held firmly together by strong attractive forces. In order to disrupt a nucleus, it thus seemed likely that very intense forces must be brought to bear directly upon it. One method of accomplishing this is to bombard the nucleus with very swift particles. Now the α -particle, which is spontaneously ejected from radium, is one of the most energetic particles known to science. It was recognised that if a stream of swift α -particles fell on matter, there was a small chance that one out of a great number might have an almost head-on collision with a nucleus. Under these conditions it must approach very near to it before it was turned back by the strong repulsive forces due to the electric charges on the two particles. It must be emphasised that the close collision of an α -particle with a nucleus involves the setting up of gigantic forces between the two nuclei concerned. In the case of light atoms where the nuclear charge is small, calculation indicated that the colliding α -particle, if it did not enter the struck nucleus, must at least approach sufficiently near to distort greatly its electrical structure. Under such disturbing forces, the nucleus might be expected to become unstable and then

break up into other nuclei. Actuated by these general ideas, I made in 1919 some experiments to test whether any evidence of transformation could be obtained when



A photograph with fewer tracks, showing how the helium atoms are emitted in pairs in opposite directions—(a_1, a_2) and (b_1, b_2)



Lithium bombarded by a mixture of protons and deuterons (ions of the heavy isotope of hydrogen). The tracks (b_1, b_2) correspond to disintegration by a proton as before, but (a_1, a_2) show the emission in opposite directions of a pair of helium atoms with much greater ranges, due to disintegration of a lithium atom by a deuteron

Illustrations on this page by courtesy of Messrs. Dee and Walton of the Cavendish Laboratory

In order to transmute one atom into another, it appears essential to alter the charge on the nucleus. This can be done in imagination by adding another charged particle, say a proton or α -particle, to the nucleus, or removing a charged particle from it. We must, however, bear in mind that

α -particles were used to bombard matter. The experiments were of a simple type; a preparation of radium served as a source of α -rays and the scintillation method was used to detect the presence of any new types of particles. It is well known that each α -particle falling on a preparation of zinc sulphide gives a flash of light, a scintillation, which is easily seen in a darkened room, and it was to be expected that any fast charged particle liberated from the bombarded matter would indicate its presence by a scintillation. When α -particles were used to bombard the gas oxygen, no new effect was observed. When, however, nitrogen gas was substituted, a number of scintillations were observed far beyond the distance of travel of the α -particles. Special experiments showed that these scintillations were produced by charged hydrogen atoms which we now call protons. The appearance of fast protons in these experiments could only be explained by supposing that they arose from the transformation of some of the nitrogen nuclei as a result of α -particle bombardment. This was the first time that definite evidence was obtained that an atom could be transformed by artificial methods. In the light of later experiments by Blackett, the general mechanism of this transforma-

tion became clear. It was found that the α -particle must actually penetrate into the nitrogen nucleus and be captured by it. As a consequence of this profound disturbance, a proton was ejected with high speed from the new nucleus. Let us for a moment consider the simple arithmetic of this process. The mass of the nitrogen nucleus is 14 and its nuclear charge 7 units. The capture of an α -particle of mass 4 and nuclear charge 2 raises the mass to 18 and the charge to 9, while the loss of a proton of mass 1 and charge 1 results in the formation of an atom of mass 17 and charge 8. Now the oxygen nucleus has a charge 8, so that as a result of the interaction with an α -particle, the nitrogen nucleus is changed into a nucleus of oxygen. It will be noted that the mass of the oxygen nucleus formed in this way is 17 and not 16 as ordinarily observed. It was only later that the presence of an isotope of mass 17 in small quantity in ordinary oxygen was disclosed by direct experiments of another kind. In subsequent investigations with Dr. Chadwick, the methods of observation were much improved and it became clear that at least twelve light elements could be transformed by α -particle bombardment, and in every case protons were ejected, the number and speed varying from element to element. It seems probable that the process of transformation is similar in all cases to that found for nitrogen. The α -particle is captured and the new atom that is formed has a mass 3 units greater and a charge of 1 unit higher than the original atom. In other words, we have succeeded with each of these twelve elements in turning one of their atoms into the atom of the element next higher in the normal order of the elements.

It must be borne in mind that the amount of new matter formed in this way is exceedingly minute—far too small to examine by ordinary chemical methods. Success has only been obtained by the development of delicate methods of counting single atoms of matter. On account of the minute target area of a nucleus, the chance of a direct hit by an α -particle is very small. In the case of nitrogen, only about one α -particle in 100,000 is effective in causing a transformation, and for the element aluminium the chance is still smaller—about one in a million. Of course, the α -particles in these experiments are not aimed at the nuclei, but are emitted at random in all directions, and occasionally one of them by chance happens to approach closely enough to a nucleus to be captured.

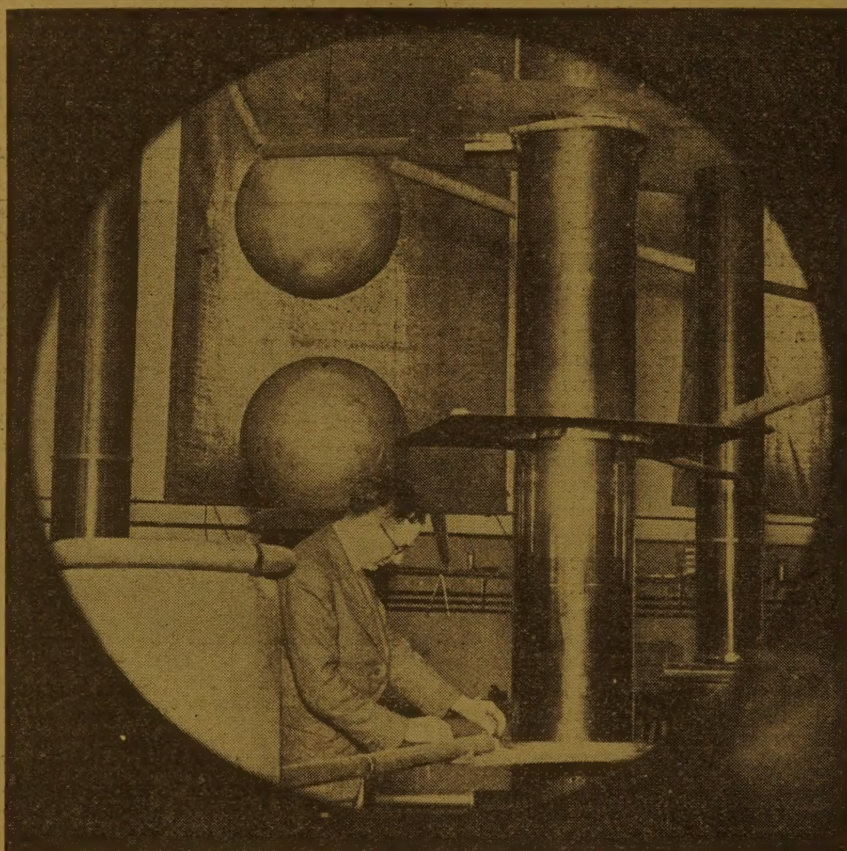
While a number of light elements could be transformed by these methods, some, like lithium, carbon and oxygen, appeared to be unchanged by α -particle bombardment. The light element beryllium, however, showed a strange effect: no protons could be detected, but Bothe noticed the emission of a penetrating radiation which M. and Mme. Curie-Joliot found had unusual properties. Chadwick showed that this radiation consisted of a stream of fast particles of a new type which he named 'neutrons'. This new particle has about the same mass 1 as the proton, but has no electrical charge. The transformation of beryllium is thus of a different kind from that of most of the other light elements. As before, the α -particle is captured, but

a high speed neutron—not a proton—is expelled. By this process the nucleus of beryllium of mass 9 is changed into an atom of carbon accompanied by the ejection of a neutron.

This strange type of projectile has remarkable properties. On account of the absence of charge, the neutron is able to pass freely through atoms of matter with little if any loss of energy. It only makes its presence manifest when it collides with the nucleus of another atom. Feather has shown that fast neutrons are in turn effective in producing transformations of novel types in other elements. For example, he finds that both oxygen and nitrogen can be transformed with the emission of fast α -particles, while recently Harkins has shown that neutrons can also transform carbon and neon. The effect of the neutron on oxygen is of special interest, as the oxygen nucleus appears to be quite unaffected by bombardment either by α -particles or protons.

So far we have dealt with the transformations produced by fast particles which are themselves derived from the spontaneous disintegration of radioactive elements. It soon became

clear, however, that in order to extend our knowledge of this subject, far more abundant streams of fast projectiles of different kinds were essential. It was well known that the passage of an electric discharge through a gas at low pressure gives rise to a multitude of charged atoms and molecules of various kinds. If the charged atoms obtained in this way were accelerated in a vacuum by passing through a strong electric field, we might hope to obtain a copious stream of fast projectiles of different kinds for bombardment purposes. For example, when a discharge is passed through hydrogen it is easy to produce a stream of as many projectiles as are emitted by 100,000 grams of radium in the same time. By the use of high voltages, of the order of one million volts, it seemed likely



Dr. Walton at work with his atom-splitting apparatus in the Cavendish Laboratory, Cambridge

L.E.A.

that we could hope to obtain sufficiently fast particles to effect atomic transformations. In order to realise this purpose experimentally, elaborate electrical apparatus is required to generate the high voltage to be applied to the accelerating tube, and very fast pumps to keep the vacuum so low that no discharge can pass. After several years' hard work, Cockcroft and Walton in Cambridge succeeded in obtaining a strong beam of protons accelerated by half a million volts, suitable for bombarding purposes. When the accelerated protons were allowed to fall on a lithium target, a number of fast particles resembling α -particles were observed to emerge through a thin window opposite the target. These particles were counted by the scintillation method already referred to, and also by automatic electrical methods which had been developed by Wynn Williams. It was soon shown that the particles from lithium were veritable α -particles, i.e., helium nuclei of mass 4. These experiments of Cockcroft and Walton are of great interest and importance, for it is the first time that it has been shown possible to disrupt an atom by the use of fast particles produced by artificial methods in the laboratory. The general character of this transformation is now clear. Occasionally a proton of

(Continued on page 595)



The original Columbus' first glimpse of the New World

British Museum

The Modern Columbus

By the Rt. Hon. ROBERT W. BINGHAM

His Excellency the American Ambassador introduces the series of talks to be given by Mr. S. P. B. Mais in the United States, broadcast there by the National Broadcasting Company and here by the B.B.C.

IN undertaking this work Mr. Mais has been called 'The Modern Columbus', because his purpose is, in a sense, to rediscover America and to interpret it both to his countrymen and to our own. It is the first time in the history of broadcasting that such an effort has been made, in which a national of one country will visit another country, study its people, and try to interpret them to his own nationals.

When I first learned of this plan some months ago, I was impressed with its importance and its possibilities. Our civilisation has been built upon the family and the home, and it is a thrilling thought that, in effect, Mr. Mais will speak from American homes to British homes, from the fireside there to the fireside here. As I understand it, his theme will begin at Jamestown, the site of the first permanent English settlement on the continent of America. I am sure Mr. Mais will have seen there the memorial to the famous Captain John Smith, and the lovely statue of the Indian princess Pocahontas, whose romantic story has caught the imagination of the world. From Jamestown, our observer will follow the tide of western migration, which, in the end, made of the United States an inter-continental nation, bounded on the one side by the Atlantic Ocean and on the other by the Pacific Ocean. You will forgive me if I am elated over the fact that his first talk will come from Lexington, in my own state of Kentucky. But I think this is also a happy thought, because Kentucky was the result of the first movement of our people towards the West—the first permanent settlement west of the Alleghanies, and the first state to be admitted into the Union, after the original thirteen colonies had been welded into a Union.

From Kentucky, he will go to Florida, and to New Orleans, that vivid, colourful city, where the Spanish and the French

have left their imprint, and then to San Antonio, in Texas. I can never think of San Antonio without recalling the proud epitaph which marks the last resting-place of the heroic defenders of the Alamos, who died to the last man. That epitaph reads: 'Thermopylæ had its majesty of death, the Alamos had none'. And then he will go across the plains and the mountains to Arizona, which all the world knows contains the Grand Canyon, that natural phenomenon, unique and indescribable in its majestic beauty. Then on to San Francisco, a great city, nobly placed on the shores of the Pacific. And then north to Oregon, where he will turn again towards the Atlantic, stopping at Minneapolis, one of the shining new cities of the West. From Chicago, he will doubtless tell you of the industrial development in that great metropolis, but he will tell you, too, I hope, of its development as one of the great centres of art and of music, indeed of culture throughout the world. He will speak from Pittsburgh, too, that city which is the very epitome of the Age of Steel. Then he will speak from Boston, the home of the oldest of American Universities, founded by the Englishman, John Harvard, and a city of culture nowhere else more highly developed: and finally, from the city of New York, greatest metropolis of our country.

I believe this series of talks will tend to promote that understanding between the British Commonwealth of Nations and the United States, which is of paramount importance in the world today. For that reason, I heartily commend Mr. Mais to my own countrymen. I am sure he will be given every opportunity to pursue his investigations, and I am equally certain he will describe what he experiences and learns in the United States with insight and with understanding.

First Impressions of America

By S. P. B. MAIS

Broadcast from Lexington, Kentucky, on October 13

I AM deeply grateful to His Excellency the American Ambassador for the high compliment he has paid us in introducing this series. His courtesy and kindness are characteristic of the courtesy and kindness that I have everywhere met since I landed in Judge Bingham's country.

In the Steps of the First Settlers

I landed last week at Jamestown, in Virginia. It was on May 13, 1607, that the earliest permanent settlers disembarked from three British ships, the *Susan Constance*, *God-speed* and *Discovery*, in the James River, after a five months' journey across the Atlantic. This small band of 105 men, led by Captain John Smith, formed the nucleus of one of the greatest nations of the world. To me, therefore, Jamestown was the obvious starting point from which to make my discovery of America. As I stood on the deserted jetty, the wood of which had been bleached grey by a semi-tropical sun, I felt like Gulliver cast up on Brobdingnag, for above me circled three chicken-hawks about the size of eagles, and around me fluttered beautiful deep red butterflies with a wing span about as big as a swallow, and there were also some extremely sinister looking enlargements of wasps. It was like looking on the world through a powerful magnifying glass.

The scene upon which I looked was like the weather—superb. If it were only on account of the climate I would urge those of you who have the time and can afford the fare to take the next boat and join me. No one had ever told me about this American climate. Since I have landed, the sun has shone on me out of a cloudless sky for practically the whole of every day until yesterday, and there has always been a gentle breeze to temper the heat. The odd thing is that the people here seem to regard this as normal.

Then the scenery. I had expected the James River to be a narrow creek in a more or less impenetrable jungle: instead, I found myself looking across a tidal yellow water about a couple of miles wide, fringed with trees on either shore, and absolutely deserted except for one solitary white ferry crossing over from Norfolk and bearing the name *Captain John Smith*. A thin white bird stood statue-like on a wooden pile some little way out on a green sloping lawn by the water-side, and on that stood two monuments, one of John Smith, weatherbeaten, fierce and swashbuckling, and the other of the young Indian girl, Pocahontas, with arms out-stretched towards him. She it was, you remember, who saved his life, married John Ross, and died in Gravesend at the age of twenty-two. There were no houses in sight at all—just this lawn and these monuments under the trees; but as I landed I heard a mighty voice and thunderous cheers, and instantly I felt like Gulliver on Brobdingnag again. Somewhere a radio was calling, telling me and all the world exactly how things were going in the championship of the world series of ball games between the New York Giants and the Washington Senators.

I listened awhile, and then passed on to the lawn where the colonists held their first communion. Here the silence was only broken by the lapping of the water against the stones, and the incessant chirruping (if that is what you call it) of the crickets. A bee about the size of a bat settled in a scarlet tobacco flower, and mosquitoes attacked me in battalions. There was a strange, heavy, sweet, and rather sickly smell. In spite of being beset on all sides by Indians, and seeing his men die of exposure, fever and privation, John Smith said of this place: 'Heaven and earth never agreed better to frame a place for man's habitation'.

Man's Mark on the Settlement

I passed on up a hedgeless road between occasional fields of large green-leaved Indian corn, some still growing and some recently cut and gathered into stooks. And everywhere were trees. Here and there in the clearings, standing under the trees, I saw white wooden houses with green shutters and netted verandahs, with sometimes a coloured and sometimes a white occupant swinging idly in rocking-chair or hammock. All along the road by the turning leading to these houses were

semi-cylindrical boxes on white wooden posts bearing the householders' names. These are used for letters. The road seemed to be given up solely to motor traffic, except for an occasional farm wagon drawn by mules or ponies and dusty large-wheeled horse buggies. I met no one on the road except a few young hitch-hikers, beckoning for lifts from passing motorists to take them a little further on their journey to nowhere. After six miles I saw in front of me, under the trees, a group of handsome pale brick buildings, and two teams of young girls—one lot in green tunics and the other in yellow—playing hockey, and there were also several young men carrying books, sauntering to and from lectures. I had arrived at William and Mary College, Williamsburg, the second oldest college in America. The main building was designed by Sir Christopher Wren. As I wandered over the campus and through the library I was struck, not only by the grace and beauty of the architecture, but even more by the grace and beauty of the fair-haired girls. In the Duke of Gloucester Street just beyond, some coloured children with big red-and-yellow bows on their hair were playing up and down the steps of the stores, and I saw a cluster of white roses in a garden.

This ancient capital of colonial Virginia has just been entirely restored through the generosity of Mr. Rockefeller. And at the Williamsburg Inn I discovered another excellent reason why you should follow in my footsteps. America, far more than France, has discovered the art of good feeding. I have never eaten such appetising, or such a variety of, food as I am getting over here. Honey-dew melons, blue point oysters, terrapins, brook trout, Long Island duckling, Virginia ham, corn on the cob, salad, ice cream and such coffee as is unknown in England. I crossed the narrow leat in the neck of the peninsula to the blue bay of Yorktown, the scene of Lord Cornwallis' surrender to Lafayette in 1781 which marked the final victory of the colonists in their struggle for independence. And then, after marvelling at the sight of a woebegone young man staring at me from behind the bars of the local gaol, I drove through the country of the old dominion. All the way to Washington at every creek and crossing I was reminded by iron notices of the Civil War. Here it was Stonewall Jackson, and there it was Grant and Lee. The surface of the road was perfect, the speed of the car, like the cost of its hire (over a shilling a mile), hair-raising. The scenery was richly-wooded with any number of swamps. By the roadside, under the trees, were tourists' camps, white wooden houses, petrol stations, barbecues.

America's Seat of Government

And so I came to lazy sleepy Alexandria on the Potomac river, and looking across saw the white floodlit dome of the capital, and the immense inspiring column which is Washington's monument. That was my introduction to the city of boulevards, America's seat of Government. During my stay in Washington I had the very great honour of meeting the President of the United States, whose friendly greeting and quick smile will remain with me as one of the proudest and most cherished memories of my life. I visited George Washington's home at Mount Vernon, in the grounds of which he lies buried, and every ship that passes along the Potomac river below dips its flag in his honour. The house is kept exactly as he left it and has throngs of visitors throughout the year. I was much moved by the simple majesty of the white marble tomb of the Unknown Warrior in Arlington Park; the home of Robert E. Lee which contains a library of priceless Shakespeariana, heirlooms of the world; the Lincoln memorial and its vast statue of Lincoln; the new cathedral; and a game of baseball with its never-ending succession of thrills, fleetness of foot, and accuracy of pitching and throwing.

I remember Washington, not only for its shady parks, full of pigeons and grey squirrels, its long avenues, high houses, majestic public buildings, nearly all of which seem to be made of marble, but also because of my initiation into the cafeteria. There are many things we could with advantage copy from this enlightened country, not the least the café-

teria. This is a sort of café where you pick up a tray, knife, spoon, fork and napkin, and join a queue at a counter. You put your tray on a slide, help yourself as you rush along to orange juice, puffed rice, eggs, rolls, coffee, marmalade, or whatever it is you eat for breakfast, and when you reach the end of the counter a girl checks your loaded tray with lightning calculation, says '30 cents'—or whatever it is—and you take your tray and eat your breakfast hot at a table. The whole time spent in getting your food is 30 seconds. It is just like helping yourself at a sideboard where everything is hot and there is endless variety.

I left Washington by night train, my first experience of an American Pullman. The train was air-conditioned, which meant that the temperature was just right and there were no draughts. It was all made of steel, its walls were hung with coloured prints, there was the usual excellent variety of food and the bed in the sleeper was large and comfortable. If you wished to be extravagant you could have a drawing room all to yourself. For the ordinary Pullman fare you could use the observation car, listen to the radio, write letters, and even telephone. At night your seat is turned into a bed and the upper part of the compartment forms an upper berth; curtains are drawn between you and the main aisle and the only inconvenience is the small amount of space left for undressing.

Horses, Heroes and Beauties of Kentucky

A fourteen-hour journey brought me to Lexington, Kentucky, the centre of the blue grass country. In this town, which was the home of Henry Clay and of Abraham Lincoln's wife, you can still see the place where the slaves were auctioned. It is now famous for the breeding of race horses. I have spent many happy hours this week wandering from one thoroughbred stable to another. What lovely names these farms have—Faraway, Green Trees, Idle Hour, Dixiana. I must have seen scores of famous sires, amongst them the sixteen-year-old golden chestnut, Man o' War, who won twenty races and 250,000 dollars. These farms stand in undulating, soft country, exactly like southern England, with private gallops and paddocks with high white fences and palatial stables. The blue grass is not blue at all at this time of year, but it is a perfect green. In the fields, which are bordered with stone walls, I saw South Down and Cheviot sheep, Hereford Shorthorns, and Hampshire hogs running free. This is all very happy-looking and home-like. In houses faced with imposing white columns I found English furniture, Sheridan, Hepplewhite and even Chippendale. The place names here are mainly English—Manchester, London, Middlesboro, Richmond, Falmouth, Oxford and Carlisle. The only differences are the barns hung with drying rotted tobacco leaves, fields of Indian corn, and the coloured people in their bright clothes. It is certainly fitting that this should be the State where they run the greatest horse race in America—the Kentucky Derby. They also ride to hounds. On every side I got a sense of spacious ease, reckless gaiety, gallant gentlemen and fair ladies.

But there is another side to Kentucky. Its beauty and richness were only won after a great struggle. Kentucky's great hero is that lonely frontier man, Daniel Boone, who in 1769 blazed a trail on his own account and having won through from North Carolina to the summit of the Cumberland Gap was rewarded by the sight of these lovely fertile valleys of the blue grass country. Some who followed in his footsteps were not so lucky and got lost in the mountains, where their descendants still live.

A Mountain University

One of the most interesting places in Kentucky is the Berea College, lying among 5,000 acres of forest up in the hills, which provides the 2,500 sons and daughters of these impoverished mountain-folk with a first-rate University education. Tuition is free, and they earn their board and lodging by working ten hours a week at any labour they choose. I was shown the fabric woven by the girls and the furniture made by the boys which is sold to the general public. After being waited on by these boys and girls at table (it would be a jolly good thing if we adopted that principle) I attended an English class and was struck by the ease and naturalness with which one boy described his experiences as a hobo and a girl described her life in a mountain home. They were all very eager to compare pronunciation with me, and they



Monument commemorating the first attempted English settlement in Virginia

Planet News

decided that I was quite incapable of pronouncing 'butter' or 'low' correctly. Their pronunciation, on the other hand, struck me as unusually correct. If I had my time over again I should certainly choose Berea for my University. A sight that I shall not quickly forget was that of a group of twenty girls in cornflower blue tunics playing in the quickly fading light among the trees under the hills.

The first white settlement in Kentucky was in 1774 at Harrodsburg and I saw there the reconstruction of the first wooden stockade ever built on this side against the Indians. It was all so exactly like a scene out of *Treasure Island* that I found myself looking round all the time for Long John Silver. It is amazing to think it was occupied so recently as 160 years ago. There was a memorial there to George Rogers Clark, who floated down the Ohio from Pittsburgh in 1777 with 180 men and captured Illinois from the British. Kentucky certainly specialised in brave pioneers. It delighted, it seems to me, in taking on whole nations single-handed. There were General John Morgan and Hogan, and it is always to be remembered that this is the birthplace of Abraham Lincoln. What you probably know best about Kentucky is *Uncle Tom's Cabin* and 'My Old Kentucky Home'. Well, I've heard very few people sing 'My Old Kentucky Home'. At the moment everyone here is singing quite another sort of song which is called 'Who's Afraid of the Big Bad Wolf?'

I seem to be telling you very little of my impressions, but what I have discovered up to now is that the Americans are most courteous and helpful. That they have a very much better road sense than we have. That their women are beautiful, walk superbly and are invariably well-groomed. That everyone under twenty roller-skates down the street, and everyone over twenty wants to. That the whole place is electrically alive, bursting with energy and full of immense potentialities. That they would give almost anything to be amused, have an odd liking for roasting themselves alive indoors and a whole-hearted dislike for adverbs, prepositions and certain letters of the alphabet. I can't think that Mr. Ramsay MacDonald would altogether approve of their pronunciation of Florida, Carolina and squirrel. But as Will Rogers says, the trouble with you and me is that we haven't the slightest idea how to speak English. So they are probably right.



The Listener

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Half-Applied Science

MR. JULIAN HUXLEY'S second talk on 'Scientific Research and Social Needs' brings us sharply up against the question which he discussed the week previously with Professor Levy, that is, what is the use of science to society today? The first topic included in his survey is the application of science to the production of food, and he tells us of many almost revolutionary developments which are now taking place in the breeding of new varieties of plants and animals and in the application of chemistry to transform the soil itself. 'Science', he confidently concludes, 'if its existing knowledge were properly applied could at least double the amount of food we produce in these little islands, and could put up world production to a level at which there would be enough and to spare for the 2,000,000,000 beings in existence'. But there is a blight upon these wonderful achievements. Although research enables the scientist to speak so confidently of what can be done to increase production, research has not enabled the sociologist to speak with similar confidence as to the proper way to make use of the scientist's discoveries. We are in the position, as Commander King-Hall points out on another page, of not daring to make full use of the discoveries of science because we have not evolved a form of economic organisation capable of assimilating those discoveries. Thus it is that we have simultaneously millions of people with not enough to eat, thousands of farmers and small-holders (such as those Professor Scott Watson has been visiting in the North) barely wresting a living from the land owing to low prices, millions of factory producers standing idle, and finally a small group of scientists showing us how we could all live in a land overflowing with plenty if only we knew how to distribute that plenty.

This paradox is partly accounted for by the very different attitude which society adopts towards the investigator in the fields of physics, chemistry, biology, or some application of these on the one hand, and towards the investigator of social phenomena and the administrator who has to grapple with social problems on the other. The attitude of the public towards the former is one of curiosity, respect and acceptance. The investigator here pursues his researches more or less without interference, or at least under criticism only from fellow experts in the same field. If his achievements or discoveries satisfy the expert minority, they are taken on trust forthwith by society as a

whole. He is protected from premature publicity by the scientific jargon in which he chooses to express his observations; and though he suffers from some lack of financial resources because of this obscurity, in the sphere of food production at any rate, as Mr. Huxley has shown, his discoveries run ahead of what society is immediately capable of turning to account.

But the very opposite prevails in research work in economics or politics. Though these subjects are admitted as provinces of science, they are hedged about with none of the awe which prevents the ignorant amateur from trespassing on their territory. It never enters the heads of Tom, Dick or Harry to propound opinions or hold debates on chemical, physical or biological hypotheses: but every Tom, Dick and Harry, so soon as discussion becomes political or economic, considers his own opinions as good as or better than those of anybody else. The consequence is that these subjects, for all the intellectual energy that is devoted to them, are backward in scientific achievement. Experts who investigate furthest and know most about them are least willing to speak, save in oracular or general terms, or in a jargon of mathematical formulæ. For these are the 'democratic' sciences where nothing can be done without vote-counting and popular consent, whereas those others are the 'aristocratic' sciences where leadership and responsibilities are the qualities called for, and consent is of secondary importance. Lord Rutherford may propound on the subject of the atom some doctrine which is of fundamental significance to the whole future understanding of the universe; but not more than a few dozen persons in the country are qualified to agree or disagree with what he says: the rest listen merely with a view to learning. If the kind of tradition which attaches to these branches of science had also grown up in the pseudo-sciences of economics and politics, we should at least be better off than we are today, when universal distrust and disagreement make impossible the application of the only generally admitted remedy for the world's troubles, that is international economic co-operation. It is because no step can be taken in this direction without controversy and without endless discussion and voting that we see the world in some parts veering away from democratic methods of social organisation towards either dictatorship or bureaucracy.

The sense of social deadlock and impotency in a world of increasingly rapid technical change is most dangerous to democracy. Men ask why the scientific expert, who has discovered ways infinitely to expand food production, cannot also be used to discover ways of fairly distributing and consuming products. Up till now man has always feared the bogey of want; now he fears the bogey of plenty. He believes that the type of brain which has exorcised the former could also exorcise the latter. And he is beginning to think that government, employment, money and such-like social problems are at least as deserving of scientific research and expert solution as plant and animal breeding, food storage and transport. But he is still timorous. He still distrusts the experts in the pseudo-sciences. And, alas! he still loves to hear himself talk more and more about subjects of which in his heart of hearts he is aware that he knows less and less.

Week by Week

THE area of land acquired by Councils for small-holdings during 1932 is reported* to have decreased by over 2,000 acres from the area acquired during the previous year. The number of applicants for such land, on the other hand, has increased by nearly 3,000, making a total of 8,510 unsatisfied applicants. There appear to be two reasons for this situation—the price of land, for which the Councils have often to compete with building societies, is high, and the financial assistance offered by

* Report on the Work of the Land Division of the Ministry for the Year 1932, H.M. Stationery Office, 1s.

the Ministry of Agriculture has had to be restricted. Nor does the progress of the system justify further heavy expenditure. Small-holders themselves too often resist the co-operative buying and selling, which would enormously increase their economic efficiency, and the success of the whole movement is thereby prejudiced. A way round this difficulty is, however, suggested by the success of the scheme fostered by the Society of Friends for providing allotments for unemployed men. Whereas a small-holding may vary in size from three to fifty acres, an allotment is limited to 300 square yards. One hundred thousand of these are now being worked by unemployed men, and their yearly produce is valued at over half-a-million pounds. So successful has the system proved that an experiment is now being made, in the Durham area, to convert allotment holders into independent small-holders. The process is necessarily gradual. Beginning with half-an-acre, the holdings are shortly to be increased to an acre, from which it is hoped a man may earn as much as twelve shillings a week, and thence by a further increase of his holding eventually become independent and start paying a small rent. The important point is that he will arrive at the small-holding stage well-trained in co-operative methods, and thus provide the best material for the successful working of this system. The Society of Friends envisage a time when each large town will have its ring of small-holdings, from which it will be able to obtain a large part of its agricultural produce. Since 70 per cent. of the picked men chosen to start the conversion scheme in the Durham area have already justified themselves—despite the fact that they have been engaged in unfamiliar work with poultry—there is obviously much to be hoped for from the further development of this undertaking.

* * *

The trial of the Museum-wreckers by the Soviet authorities at Leningrad may perhaps do something to clear up our misunderstandings of the Soviet attitude to art. Through the revolutions, Russia has managed to retain the majority of her art treasures intact. Churches have been converted into museums, and from the loot of the houses of the old nobility many works of art have come into the possession of the proletariat. Consequently, as an art centre, Moscow is today as rich as it ever was and the art-loving visitor may see splendid collections of French, German, Flemish and Dutch paintings in the Museum of Fine Arts, while in the Museum of Modern Western Art he may see perhaps the finest collection of modern French paintings in existence. In addition there is the famous Hermitage Collection to attract him on an artistic pilgrimage to Leningrad. Much credit for this preservation may be given to the Commissar of Education, Lunacharsky, who argued thus: 'The proletariat must use all the nutriment of the soil tilled and dressed by a long line of ancestors'. The Soviets are now called upon to defend this position against fanatical iconoclasts, who are themselves by no means unintelligent men. M. Masloff, director of the Art Institute in Moscow and the chief prisoner at the trial, has protested in his defence that the pictures and statues destroyed 'incorporated alien ideology harmful to the proletarian masses'. He has now to learn that, to the orthodox, there is nothing strange in preserving the art of the bourgeois epoch, since it is only of historic interest. Since its social symbolism no longer holds good, it cannot possibly communicate with full effect. Lunacharsky even went to the length of having some of his exhibits labelled according to their class characteristics. Thus presented, paintings by modern Frenchmen resembled archaeological remnants rather than works of art. Such in fact appears to be the official Soviet attitude to bourgeois art. Nevertheless, the doubt remains whether it may not be after all merely a subterfuge, by which an extremely astute man has managed to preserve for posterity the treasures under his care.

* * *

There is nothing like a sentimental tune sung on a solemn public occasion for resolving what should be one body of people assembled for one common purpose into a lot of sheepish and self-conscious individuals. So we sympathise with the protest which the musical critic of *The Times* has made against the tune to which the hymn 'O Valiant Hearts' is usually sung at Armistice Day and other services about that time, often held out of doors round War Memorials. A tune to suit such occasions should surely be one easy to pick up and remember correctly, well marked in rhythm to prevent the dragging to which an outdoor congregation is particularly liable, and

capable of being sung without embarrassment—such a tune as the 'Old Hundredth', for example, or 'St. Anne' ('Our God our Help'), or 'St. Paul' ('O God of Bethel'), which do in fact fit such occasions extremely well. But whatever the merits of this 'O Valiant Hearts' tune (and it was apparently not composed with any such occasion in mind), it is precisely in those requirements that it is unsatisfactory. At the recent Salonika Reunion on the Horse Guards Parade, *The Times* critic says, the crowd was no nearer getting the tune right at the fourth verse than at the first; the very man who brought it to the notice of the author of the words knows 'no tune so sensitive as this to variations of time'; and the Rev. Pat MacCormick has found it difficult for good congregational singing in St. Martin-in-the-Fields. His opinion is particularly important, for the hymn is being broadcast from St. Martin's on November 12: and whatever tune is chosen then will stand a good chance of acceptance elsewhere. Alternatives have been suggested: Henry Lawes' 'Farley Castle' (set to various hymns in *Songs of Praise* and the *English Hymnal*), Holst's 'Valiant Hearts' (actually written for the words in question) and 'Ellers' (to which 'Saviour, again to Thy dear Name we raise' and 'Lift up your hearts' are usually sung). 'Ellers' is perhaps the most satisfactory, being more widely known than the other two: but all would seem to fulfil the necessary requirements, and it is likely that, even by a large crowd in the open air, they would be sung in tune, in time, and with all conviction.

* * *

Our Scottish correspondent writes: Sir D. Y. Cameron—unique in modern Scotland in being at once an artist of the most distinguished parts and a zealous Churchman—has given out rebellious youngsters something to think about in his declaration that it was not the Reformers who were responsible for the destruction of Scotland's pre-Reformation churches. The occasion was the fourth festival of the Society of Friends of Dunblane Cathedral, in celebration of the 700th anniversary of the coming to Dunblane of its founder, Bishop Clement; and Sir David's point was that, while the Reformers certainly did 'destroy the minor arts of churches'—the symbols, the gold, the silver, and the embroidery—the ruin of the fabrics was due to the depredations of English invaders, aided and abetted by our Scottish weather. It may seem to the detached observer a somewhat ingenious fragment of special pleading. Sir David might at least have mentioned those canny Scots souls who saw in the walls of empty churches excellent material for the construction of drystone dykes and byres. But by throwing the blame on Sassenach monarchs he has very ingeniously distracted *les jeunes* from the Presbyterian wraiths they love to hunt, and to whom they incline (because it is so easy) to impute so many of Scotland's ills; and he has done his country the great service of reminding her that pretty ruins are not enough. Sir David happens to live in the Stirlingshire village of Kippen. There he has taken the old Parish Kirk into his especial care and made of it a thing of beauty, so that earnest elders from all parts of the country, eager to make the best of 'improvements', go on pilgrimage to Kippen to see what a sweet sanctuary an artist can make of a place of worship. He has, in fact, contrived a revolution, and now this business of intelligent restoration is one of the most interesting and picturesque symptoms of the revival of what has been called 'a consciousness of Scottishness'. The fine Cathedral at Dunblane is a grand example of devout and tasteful restoration, even more spectacular than the effort of an enlightened artist in Kippen Kirk; and only a few days ago a church at Bothwell, 530 years old in its original parts, was rededicated on the completion of its loving reconstruction. It is altogether a healthy movement. In the meantime, the cynic may be permitted a smile at the thought that Glasgow, capital of industrial vandalism, possesses the only unmutilated survivor of the larger Gothic churches of southern Scotland.

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Foreign Affairs

Germany Leaves the League

By VERNON BARTLETT

Broadcast on October 14 after the announcement in the News Bulletin that Germany had withdrawn from the League of Nations. There was also broadcast a record of Hitler's speech in Berlin explaining to the German people why his Government had taken this step

HERE can hardly be any doubt that Germany's withdrawal from the League of Nations is the gravest step taken by any country since the War. On previous occasions—when the French occupied the Ruhr, for example—one party to the dispute was too weak to put up more than passive resistance. Germany is now fast nearing the stage when she would put up active resistance—would fight if necessary with fists and pitchforks—in defence of what she sincerely believes to be honour and justice.

There was not much doubt about Hitler's sincerity tonight; none of that shouting which we are apt to associate with him and with mob oratory. Once before I have heard him speak as a statesman—last March when he persuaded the Reichstag to vote him full powers for four years. This evening he spoke with the same solemnity, and he left me wondering more than ever what use he is going to make of the power that is his. Of one thing I am sure, and it is this, the tremendous majority of Germans will believe he has today taken the only dignified and courageous step, and that is why the position is so serious.

We are not dealing with a man who will be disowned by his own people, we are dealing with a whole nation. The few millions out of the sixty-two or sixty-three millions (or whatever the figure is) who so hate Hitlerism that they will never support it when there are rumours of war will have no influence. The German *nation* has given up hope of a successful Disarmament Conference; the German *nation* has left the League.

I have suggested so often in the past that each disappointment in the international field gave the extremists in Germany a little more strength. I have so greatly feared that some drastic action such as this would become inevitable, that I know that I risk offending a lot of you by talking as I am doing tonight. It would be easier to keep away from the microphone altogether. I take the risk of offending some of you because I am so profoundly concerned that our behaviour during the next few weeks is going to decide the issue between a real peace and another war. I beg of you to try to drop your prejudices, and to face up to the facts.

We all know Germany has a pretty good case for feeling that the ex-Allies have not kept the pledge they gave under the Peace Treaty to disarm. We in Great Britain knew that before Hitler came into power, and it still remains a fact if Hitler's subsequent behaviour towards the Jews has turned our sympathies away from Germany. Two wrongs don't make a right. If he behaves unjustly there is no excuse for us to do so. For Germany, as I have insisted time after time, is a pathological case. She feels—as I believe to a very exaggerated degree—that the rest of the world is determined to use the Versailles Treaty, the League of Nations, every machinery it can, to keep Germany down.

The League is an interesting case in point. After Locarno when we did hope things would improve, Germany was invited to join the League and was promised a permanent seat on the Council. Since these permanent seats were reserved for the Great Powers, the promise to a country with such an inferiority complex was a valuable one; but at the last minute she discovered that the French, with British support, were planning to give Poland a permanent seat as well. Spain wanted one, Brazil wanted one (and left the League because she could not get it), all the German reactionaries rubbed their hands with delight when they found that Stresemann was being invited into a Council that appeared to be packed against him. The special assembly of the League summoned to admit Germany had to go home without having done anything. It was only Stresemann's determination to bring Germany back to this wretched footing of equality that made him swallow his pride and come to Geneva five or six months later. There have been so many cases like that to dispel the confidence of even the most moderate Germans that they will get a square deal.

But let us leave the past alone. I only mentioned it because we must realise why Germany is acting in this way, and we must realise it because the whole future depends upon our ability to do so—'the whole future' is no exaggerated phrase. I have never felt more keenly than I do tonight that all the men who were killed in the War died that there might be peace, and that they put upon the living a tremendous responsibility. What are we going to do now? We can throw up the sponge, say that the Disarmament Conference has failed, and prepare for the next war. Mr. Baldwin reminded us the other day what that would mean in taxation to a world that already spends some nine hundred million pounds a year on armaments. Or we can say that Germany alone is responsible for the breakdown of the Conference and that if she shows the least sign of re-arming we shall support France in a 'preventive' war, or blockade Germany or in some other way overthrow her Government. And what then? Can we drag Stresemann out of his grave and put a docile public behind him? No, the alternative to an extremist Government in Germany today is a more extremist one still. And the result of crushing Germany today is a new war, not for years perhaps, but how many more years of unsettled conditions can our civilisation stand? Or there is a third course. We can swallow a little of our pride and make a new attempt to understand and meet the German point of view. It is worth swallowing any amount of pride if peace is at stake; civilisation is more valuable than prestige.

And we must go further. This crisis arises because of French anxiety about security. Germany, as Mr. Bernard Shaw said today, is like a horse that has fallen with everybody sitting on its head, and it has to get up at all costs. France is so worried lest she should be knocked over when the horse does get up that she would like to go on sitting on its head for ever. We have got to help France, not by encouraging her in her belief that Germany wants a new war. 'Germany', said Hitler today, 'is ready to destroy the last German machine gun and dismiss the last German soldier if others do likewise'. We have to reassure France—as Mr. Baldwin did the other day—by reminding her that we will help her if she is attacked, as we are pledged to by the Treaty of Locarno.

Old men saw the Germans advance across French soil in 1870; young men saw them back again in 1914. We have to remove that anxiety; we have to remove the German feeling of inferiority; we have, above all, to realise that when M. Bleriot first flew across the English Channel over twenty years ago he wiped out our last chances of remaining outside a big European conflict. Anything which makes another Franco-German war more probable (now or in another twenty years) is of vital interest to this country. If we had stood by the pledge we and the Americans gave to France during the Peace Conference, the French would not have behaved in a way which inevitably makes the Germans believe that they are faced by a nation which is undying in its hostility. I doubt whether there will be any real Franco-German improvement until the two countries know exactly what our part in Europe is going to be. We can be as firm as we like with the Germans if only we are just with them. I am so convinced that we Englishmen would feel much as they do and act much as they do if we were in their situation that my sense of fair play makes me hope that we shall take this latest step calmly. And above all, I am so convinced of their desperate—their almost insane—sincerity that I pray we shall make an unusual effort to turn that sincerity towards peace; it can still be done, but it demands statesmanship.

I have perhaps no right to talk like this. Only the belief that the great majority of my listeners—the great majority of listeners in all countries—want peace, and are fed up with politics, prestige and all the rest of it—only that belief gives me the courage to do so.

'Anywhere for a News Story'

Pre-War War Adventures

By H. A. GWYNNE

The Editor of the 'Morning Post' relates some reminiscences of campaigns of the late nineteenth century, the memory of which has been almost obliterated in most people's minds by the war of 1914-18

TO those of my listeners who took part in the Great War a recital of the little wars and battles of earlier days will appear trivial and unimportant. Yet, though they lacked the grim grandeur of that terrific conflict, they were picturesque enough to be of interest even to the veterans of 1914-1918.

In the autumn of 1895, the British Government made up its mind that it could no longer stand the impertinence and the cruelties of King Prempeh of Ashanti and his Queen-Mother, and it was decided to send an expedition, partly of English troops and partly of West Indians, to Kumassi, the capital. I was asked by Reuters, for whom I had been acting in the Balkans, to accompany the expedition as a Special Correspondent. It was a bloodless campaign, though malaria took a toll of thirty-five per cent. of the troops engaged. The expedition was commanded by Sir Francis Scott, who had a good deal of experience of bush warfare, and Lord Baden Powell, then a Major, was in charge of the native scouts attached to the expedition.

Arrived at Kumassi, we found evidence of the appalling cruelties which were practised by the King and Queen-Mother. On one side of the big open square, on which the Palace looked, was a corner of about an acre, which our men, with a soldier's aptness for finding a good name, called 'Golgotha'. It was knee-deep in the skulls and bones of those who had been executed by order of the Court. The cruelty of the Queen-Mother was beyond imagination. Anybody who offended by a look, a frown or a smile, was likely to be ordered off to instant execution. Another pleasant habit of the lady was to round up her rich subjects, and to charge them with some offence for which they suffered the extreme penalty, their fortunes and possessions, of course, coming to the Queen-Mother. There was a curious but respected custom in Kumassi which sometimes saved the lives of the victims. Pardon was accorded to persons accused of a crime, provided they could plead for the Royal Mercy. This plea was, I believe, in a set form of words, and the custom was to grant them their lives if they were able to mumble the

words asking for Royal Mercy. In order to prevent this plea being made, the Queen-Mother devised a horrible expedient. Members of the Corps of executioners, armed with thin steel skewers, would move quietly and cautiously behind the victim, and before he could say a word, would pierce his cheeks and his tongue with the skewers, so that the man was unable to utter a word. He was then led to the Royal presence, where his inability to ask for the Royal Mercy led to his death.

I shall never forget the scene on the day after our arrival, when King Prempeh and the Queen-Mother were summoned to a Palaver in the main square. The Governor of the Gold Coast, Sir W. E. Maxwell, was seated on a dais made of biscuit-boxes, while, a little way off, was King Prempeh and the Queen-Mother, with a small army of courtiers, each sheltered by a huge umbrella which was an emblem of royalty. We had not declared war against Ashanti, and our expedition was in the nature of a visit to negotiate with the King. The Palaver began with a speech from the Governor of the Gold Coast, in which he recounted the crimes, cruelties and the impertinences of the King and the Queen-Mother, and an opportunity was given to the King to reply to these charges. His explanations did not satisfy the Governor, who announced that he was wholly dissatisfied with the Royal conduct, and, therefore he intended to take King Prempeh down to the Coast



Destruction by blasting of a Fetish-Tree in the Ashanti War

Illustrated London News

in custody of the expedition, and that he was to be accompanied by the Queen-Mother. Instantly, the armed escort held in readiness marched forward, surrounded the King and the Queen-Mother, and took them into custody. It was a most dramatic moment, for most of us expected violent resistance. Troops were posted to meet such a contingency, but luckily their Majesties accepted the situation, and the Royal party were taken off under a strong escort.

Only one week was allowed me, on my return from the Ashanti Expedition, to make my preparations to follow Lord (then Sir Herbert) Kitchener's expedition for the reconquest of the Soudan. For thirteen years we had abandoned the country to the Mahdi, who ruled with an iron hand the whole region

of the Nile from Fashoda to Wady Halfa, where we had a garrison.

The march up the Nile, followed by a rickety railway and still more rickety engines (for rails, sleepers and engines were bought from scrap—very secondhand indeed) was arduous, but no fighting took place, except a few cavalry skirmishes. Our little army of 12,000 men was partly Egyptian, partly Soudanese. Since the days of Hicks Pasha, when that unfortunate commander was killed and his force annihilated, British troops had been found indispensable to deal with such a first-class fighting man as the Dervish. We were, for the first time for very many years, going to meet him with a purely Egyptian army.

We had halted for a considerable time some seventeen miles from a little village called Firket. It was known that a Dervish force under Mahmoud occupied the place with some 7,000 men. Our intelligence arrangements were as near perfection as they could be under Major Wingate (now Major-General Sir Reginald Wingate). He had with him Slatin Bey (now, alas! dead), who had escaped after twelve years' terrifying experiences as a prisoner of the Mahdi. Slatin, whose friendship in after life I shall always cherish, was, of course, an invaluable help in finding out the movements of the enemy. He always appeared on the march with a sword, a rifle and two revolvers, one in his holsters and one by his side. I chaffed him one day and called him Father Christmas. His reply, however, was silencing: 'I have been a prisoner once, my boy, and I'm not going to be taken alive again'.

Kitchener decided to take Mahmoud by surprise and orders were given for a night march in three columns. Brigadier-General Hector MacDonald commanded the column to which I attached myself. Riding by his side he told me to choose my fastest pony, for, said he: 'Its legs may save your head'.

The movements of the little army were perfectly executed for, well before dawn, every column was in its place, contact was made between each of them, and we sat waiting for the dawn, having surrounded 7,000 alert and vigilant Dervishes without a single one of them having the slightest suspicion. The infantry were all in battle formation, two deep, the guns were loaded and pointed and the cavalry and camel corps ready out in the desert to move right or left in pursuit or attack. The dawn seemed to me to be coming very very slowly.

Then with incredible swiftness the light came, followed by the slanting rays of the rising sun. The signal gun is fired and the

The position of Mahmoud was impossible, but he put up a gallant and splendid fight. Towards the end when, here and there, small groups were hoisting white rags in token of surrender, I saw a most magnificent example of fanatical bravery. From behind a mud hut there suddenly emerged thirteen horsemen. With loud shouts of 'Allah, Allah, Rasulla', and shaking their spears they galloped straight at the Egyptian battalion behind which I stood. The distance was over half a mile, and every Egyptian soldier was firing for all he was worth. The charge was hopeless though splendid. Now a man would topple over, now a horse—and his rider would run on shouting and waving his spear till he too met his fate. They all died, but the last got to within fifty yards of us before he too fell.

This little action was decisive, for it proved to Kitchener and his officers that the thirteen years of strenuous training had created a native army able to stand up to the dreaded Dervishes. We pushed up to Dongola and as far as the second Cataracts. It was a long and wearisome march with cholera thrown in as an extra. Before we tackled Dongola we were reinforced with a British battalion, the North Staffordshire Regiment. The Dervishes had a number of muzzle-loading guns throwing a huge round shot. The North Staffordshire were marching along the other side of the river and the Dervish batteries tried to shell them. Their shot fell short, and I remember hearing the whole battalion shout 'Pitch 'em up Darrewish, pitch 'em up!'

No sooner had I returned to England at the end of this campaign, than I received orders to join the Turkish Army at Monastir which, under the command of Edhem Pasha, was preparing for a campaign against Greece.

My fellow correspondents were the Hon. W. Peel (now Lord Peel) and Stevens, who died at Ladysmith. We messed together and saw the fighting in company. After driving the Greeks off the mountainous frontier, we captured Larissa in the middle of the great plain of Thessaly. To the south three Greek armies awaited our attack and Edhem Pasha had three forces to meet them. Our difficulty was to guess where the first fight would take place, and we prayed that there would not be a simultaneous series of actions, for the simple reason that, as a man cannot be in two places at one time, he certainly cannot be in three. We therefore asked Peel to approach the Turkish Commander-in-Chief and get him to promise to let us know when and where the first battle was likely to take place. This promise Edhem gladly gave. Two days afterwards we heard firing in the distance. We

saddled our ponies and were off. As we got nearer there was no doubt in our minds that quite a battle was taking place. This had an exasperating effect on Peel. As soon as we reached the outskirts of the action and found Edhem surrounded by the military *attachés* and his escort of two hundred cavalry men, Peel galloped up to him and, pale with anger, said: 'Excellency, you promised not to fight without letting us know, and here you are in the middle of the battle'.

Poor Edhem was taken aback and most apologetic: 'I did not make the battle', he said. 'The Greeks attacked'.

After a second visit to the Soudan, I was almost immediately sent off to Peking, where, owing to the seizure of Port Arthur by the Russians, things



King Prempeh's humiliation

King Prempeh and the Queen Mother kneeling and embracing the Englishman's legs, the native symbol of abject submission. From 'Our Fathers', by Allen Bott (Heinemann)

village in front of us stirs into life like ants under a lifted stone. We see the Dervishes rush out facing a thin line of steel and men which completely surrounds them except on the river side. There is no hesitation on the part of Mahmoud's gallant men. They swarm out and taking what shelter they can, open a brisk fire to which there is brisker response. Would our line hold? I was just behind an Egyptian battalion, and I watched the faces of the men to see what effect the bullets were having on them. They stood firm and my fears of a debacle disappeared.

looked ugly. In March, Prince Henry of Prussia arrived—the 'mailed fist' of his brother the Kaiser. His visit coincided with the Peking races. Here a pony I had bought for three pounds romped home in every race for which he was entered, and I won the beautiful cap given by Prince Henry, as well as even more magnificent prizes given by the Russian and French Legations and the Chinese Foreign Office. Prince Henry invited me to visit the new German port of Tsing-Tau which Germany had seized as a reply to Russia. The German warship on which we

sailed—*The Deutschland*—was a very old ship. She also carried a wonderful band which played at regular intervals. One day at lunch in the ward room I thought—I heard the band playing. 'Hush', I said. 'Listen to the music'. The conversation dropped—there was silence. Suddenly up jumped the Chief Engineer. 'Herr Gott', he cried, 'zat is not the music; zat is mine engines!' After nearly a year and a half in Peking, I received a wire instructing me to go, by as direct a route as possible, to South Africa, where things were beginning to look bad. Travelling via Singapore, Rangoon and Calcutta, I caught a labour ship at the latter port and arrived in Durban some time in August, 1899. I stayed in South Africa throughout the war, came home for a week, and then returned to accompany Mr. Joseph Chamberlain on his political tour. So many of you will remember the chief incidents of that war that I will content myself with one or two stories which may not be without value as illustrations of the kind of warfare we waged. We started the fighting with infantry, but mounted men were obviously the troops for South Africa. Accordingly, orders came for every infantry battalion to select enough men to make a mounted Infantry Company.

In one battalion which shall be nameless, the men were selected and a sergeant-major was sent down the line to get equipment, bridles, saddles, numnahs, holsters, bandoliers, etc. He returned in a few days with everything in order, except bandoliers. He had brought none. 'But where are the bandoliers?' asked his officer. 'Well, sir, it was like this. Before I went down I asked the men if any of them could play the bandoline, and as none of them could, I didn't draw any'.

The Boers had no uniform and they rode about the country in the quaintest of costumes. I once heard a colonel, commanding a very smart cavalry regiment, who had been taken prisoner and had been allowed to return, complain as follows: 'I didn't mind being taken prisoner. That is the fortune of war, but to be taken prisoner by a fellow in a top hat and an old frock coat was a bit too much'.

Again, a newly arrived Irish battalion was holding a hill. Along the crest was a strong picket, with a couple of men watching. One of them called out to his sergeant, 'Sergeant, there's a lot of civilians climbing the hill, shall I shoot?' It was a Boer attack!

In 1903, I returned home, and only one adventure in search of news remained before I settled down to the humdrum of life in London. One day in 1903, the world was startled by the assassination of King Alexander and Queen Draga of Serbia. I was bundled off at once and arrived in Belgrade forty-eight hours after the tragedy. This was the story as I was able to piece it together. Dissatisfied with the rule of their King, a number of officers conspired together to depose him. They were able to influence a regiment which, headed by the conspirators, marched to the Palace and surrounded it. The officers entered and were met by the King's A.D.C., who refused to say whether the King and Queen were in the Palace or not. Holding him prisoner, they searched the whole palace without success. They then turned to the A.D.C. and said: 'We are very sorry but we are going to shoot you. You know us all and, while we don't blame you, we shall have to put you to death for our own sakes'. This threat completely unnerved the officer who said: 'They are in the Palace in their bedroom'.

Another search was made, the King and Queen were found hiding in a closet. The conspirators killed them both with their swords and threw their bodies through the window. Then they shot the A.D.C.

I was allowed to visit the scene of the tragedy and saw the room in which the murder had been committed. It was in a state of dreadful disorder—the clothes strewn about and the many dark spots on the floor and windowsill told their story.

I understood when I saw the bedroom how it was possible for the conspirators to fail in their search for the King and

Queen. It was a long room and somewhat narrow. In the middle were two beds. Facing them was a series of six windows looking out on to the lawn. These windows were exactly similar in construction, but the one on the extreme left was no window at all, but a door leading into a small dressing room. The conspirators had thrown open four of the windows but had left the door of the closet untouched believing it to be a window and there the King and Queen had lain in stark terror until they were found and despatched.



Senegalese troops attacking Dervishes in the Soudan Campaign

Illustrated London News

Then home and the end of my story. Twenty years of wandering, of marching and counter-marching, of seeing the sunset and the dawn, ended in an office with an outlook of about twenty yards on to the house opposite. How well can I understand the feelings of Kipling's soldier, returned from the wars:

Me that 'ave rode through the dark
Forty mile, often, on end,
Along the Ma'ollisberg Range,
With only the stars for my mark
An' only the night for my friend,
An' things runnin' off as you pass,
An' things jumpin' up in the grass,
An' the silence, the shine an' the size
Of the 'igh, unexpressible skies—
I am takin' some letters almost
As much as a mile to the post,
An' 'Mind you come back with the change!

The Annual Report of the National Institute for the Blind is always an interesting publication—not least because of the many photographs it contains of different aspects of the year's work. An important event for the blind in all English-speaking countries, recorded in the Report for 1932-33, has been the adoption of a Standard English Braille—which, in February of this year, superseded Revised Braille in all of the Institute's publications. One of the chief publishing events of the year was the issue of the first two volumes of the Braille edition of the Revised Version of the Old Testament, and among other notable publications may be mentioned Sir James Jeans' *The Universe Around Us*; the diagrams for which involved weeks of highly skilled labour. The Report mentions particularly the interest which the blind take in broadcasting and all matters connected with wireless. In addition to a new technical textbook, there were issued in Braille during the year under review eight of the Talks and Schools Pamphlets, and one on the running of wireless discussion groups. A group, which has been joined by several of the Institute's blind staff, meets weekly at headquarters under a blind leader who attended the B.B.C. Summer School for Wireless Group Leaders. Of the eighteen periodicals in Braille type which the Institute publishes, the most popular is the *Braille Radio Times*. 'There is a wide demand', says the Report, 'for a daily or bi-weekly newspaper in Braille, a Braille edition of THE LISTENER and a periodical for women—but only a generous benefactor could make the publication of them possible at the moment'.

'The Debate Continues'—I

What the National Government has Done

By the Rt. Hon. STANLEY BALDWIN, M.P.

Mr. Baldwin, spokesman for the National Government, gives the first of the new series of political broadcasts in which the speakers, and the subjects they deal with, have been left to the free choice of the political parties. The first Opposition speech, by Mr. Lansbury, will be printed in our next issue

I FEEL I ought to apologise for breaking in on your programme and asking you to listen for a few minutes while I talk on the political situation. The very mention of the word 'politics' is enough to make many listeners switch off their wireless immediately, and yet we must remember that politics affect the daily life of every one of us in countless ways. Moreover, the main purpose, after all, of the statesman or politician is to help our country and to make our people more contented and prosperous; and in that respect they are in sympathy with every one of you whatever your political beliefs may be. We are one and all anxious to do what lies in our power to improve conditions in our country, to bring back trade, to decrease unemployment, and banish the depression which has brought so much suffering in its train.

Every Government is judged, and must be judged, by its success or failure to give effect to its objects, and I, for my part, ask for nothing better than that the National Government, which has now been in office for two years, should be judged by that test. I will try not to worry you with many figures, but I want to invite your attention to a few very striking facts which will serve to illustrate the extraordinary improvement which has taken place in the condition of our country as a result of the Government's work.

During the years before the National Government came into office the situation was deteriorating so rapidly that we were almost on the verge of national bankruptcy. Our total overseas trade had fallen in a single year by an enormous amount; our exports had fallen in six or seven years by nearly one-third, and what made the situation the more serious was that our imports of foreign goods were steadily increasing. For example, imports of foreign manufactured goods had risen in six years by 40 per cent.; instead of being the chief exporting country of the world we had fallen to third place, and in 1930 we found ourselves importing from foreign countries a much larger quantity of manufactured goods than we exported—a sorry state of affairs for a country which had long prided itself on being the greatest manufacturing centre in the world. Our staple industries—coal, iron and steel, wool, cotton, shipping—all found themselves going from bad to worse. Our exports of iron and steel had fallen by nearly 50 per cent. in six years, while our purchases of foreign iron and steel had increased by one-fifth. The fact of the matter was that owing to our free trade system we were not only losing our markets overseas, but we were also allowing the foreigner to capture our home market as well, with the result that unemployment was increasing steadily month by month at an alarming rate. Very largely owing to the increased cost of Unemployment Insurance, the late Government, notwithstanding the imposition of fresh taxation, found it necessary to resort to a policy of borrowing in order to meet the nation's current expenditure; and we all know that neither a nation nor an individual can go on for ever living on borrowed money. A crash must inevitably come if such a policy is allowed to continue.

Industry and Employment on the Up Grade

I need not remind you of what happened in 1931, when the crisis came upon us, but I want you to look at the other side of the picture and contrast the situation as it exists today. Our export trade has held its own at a time when the trade of other countries has been falling heavily. Imports of foreign manufactured goods have been enormously reduced, with the result that the adverse balance of trade against this country was reduced last year by no less than 120 million pounds. In two

years many new factories have been established by, or with the assistance of, foreign concerns—all of them giving increased employment to our labour. With the aid of tariffs we have succeeded in making many valuable trade agreements with foreign countries, which will lead to substantial increases in our exports of coal, iron and steel, and other manufactured goods. It is true that in return we have had to make some concession in the form of reduced tariffs on certain classes of foreign manufactures, but, even so, the industries affected are still left with a substantial measure of protection and are in a far better position to compete with the foreigner than they were two years ago.

From the moment the National Government took office the steady increase in unemployment was checked, and although there was a small rise in the figures during our first year of office, today we can point to the fact that approximately 700,000 additional persons have been brought into employment in the last year. Since January this year there have been large reductions in the unemployment figures each month, except in July, and in these last nine months unemployment has been reduced by over half-a-million. Perhaps the most encouraging feature of this steady trade revival is that the fall in unemployment has been most noticeable in the case of some of our great staple industries. In the iron and steel trade one out of every three of the unemployed has obtained work since January; in general engineering one out of four has obtained work; in the woollen industry unemployment has been reduced by half; and the same is true of the hosiery trade. In the coal industry there are 46,000 more miners at work than there were nine months ago. Our trade is slowly and steadily improving; confidence is returning, notwithstanding the fact that the unsettled state of affairs of the world generally has made the task of recovery infinitely more difficult than it would have been if conditions had been normal, and that many of our chief foreign competitors have seen their trade steadily declining during this period.

New Confidence in Finance and Agriculture

So much for the improvement in our trade position. The improvement in other directions is just as striking. With the loyal support of all sections of the community we were able, by means of economies and increased taxation, to put our finances permanently on a sound basis. This was the first essential if we were to regain our industrial prosperity, because industry cannot thrive if confidence and security are lacking. As a vindication of the Government's policy I need only point to the great Conversion Loan, the biggest operation of its kind in history, as a result of which the taxpayer has been saved no less than 52 million pounds a year in interest on Government Loans, while British industry and commerce are helped by obtaining capital at a much lower rate of interest than they could two years ago.

If you look at the state of affairs in the farming industry, you will find just the same story. Two years ago the farming industry, which is still the greatest industry in this country, was confronted with the blackest depression it had ever known. The number of agricultural workers had fallen in two years by 59,000; the total area in cultivation, crops and grass, had fallen in the same period by 175,000 acres. The area under wheat had fallen to the lowest figure ever recorded for this crop; the area under barley was only just above the lowest figure ever recorded. Month by month the situation was becoming more and more critical. Prices were falling, farms

becoming derelict, land going out of cultivation. The foreigner was relying more and more on our free and open market to dump his surplus produce, or to forestall our producers and growers before their crops were ready. If that state of affairs had been allowed to continue, and no steps taken to prevent this importation of foreign goods, I do not think it is any exaggeration to say that that great industry would have been ruined today. As it is, there is probably no farmer in the country who does not look forward to the future with greater confidence than he has enjoyed for years. I do not claim that we have surmounted all the difficulties, or that we have yet succeeded in restoring agriculture to a state of complete prosperity; but the policy which we have pursued has already borne rich fruit in many directions, and as it develops will, I am confident, establish this great industry on a firm and secure basis.

Prosperity by Tariffs, Quotas and Reorganisation

In some branches of this industry, notably horticulture and market gardening, the problem has been solved by the imposition of tariffs. The wheat problem has been dealt with by the introduction of a quota system which guarantees home farmers an increased price and a secure market, and the success of this policy is seen in the fact that the crop under wheat in 1933 increased by no less than 93,000 acres compared with last year. The barley growers have been helped by a tariff on foreign barley, and the reduction of the Beer Duty, which, combined with an increase in the gravity of the beer, ought to lead to an increased demand for the British product. We have dealt with oats by the imposition of a 20 per cent. tariff on foreign imports, and the Canadian Government has agreed to use its best endeavours to restrict the imports of Canadian oats and oat products to the average of the last two years.

The livestock industry presented us with the most difficult problem. Owing to a sudden and unparalleled fall in world prices in the summer of last year, livestock farmers in this country were faced with ruin, and immediate and drastic steps had to be taken. The imposition of a tariff would not have solved the problem, because, with the fall in world prices, the foreigner would have continued to export supplies to this country in excess of our requirements, notwithstanding tariffs. There was only one policy that could be effective for the purpose—that was a system of regulation of imports under which the foreigner would be debarred from exporting to this country more than a fixed quantity. That was the only way in which we could prevent our market being flooded with foreign produce and our home farmers being ruined by the under-cutting of prices which would have been the inevitable result. Justification of this policy is seen in the fact that there has been some increase in wholesale prices. I do not pretend for one moment that the position from the livestock farmer's point of view is as satisfactory as it could be—far from it—but I am confident that the only way in which we can secure his future is by means of this policy, and if further regulation of imports is required in order to protect his livelihood we shall not hesitate to have recourse to it.

The permanent prosperity of agriculture, however, must depend very largely on the great reorganisation schemes which we are introducing under the Marketing Act, to regulate marketing and ensure fair prices for the farmers by the prevention of under-cutting. It was impossible to introduce schemes of this character so long as our markets could be flooded with foreign produce sold at prices below the home prices; but, now that a system of protection has been established on a firm and secure basis, we are free to go ahead with these schemes which will not only mean a great increase in the amount of our home production but will enable us by means of the regulation of imports to adjust the foreign imports to the actual amount of our requirements.

Trade, finance, agriculture—in all of these directions we can safely claim, very largely as a result of the introduction of tariffs, that there has been a great improvement in our country's situation, which will increase as time advances, provided that there is no interruption in the policy on which we have embarked. There are, however, many difficult problems that lie before us. There is the question of the future government of India. I will not say more on that subject, except that whatever government is in power has to face that problem, and that we have referred it for detailed considera-

tion to a strong and authoritative Committee representing both Houses of Parliament. Nobody who has studied the problem can minimise its difficulties, or its complexities, and we all owe a great debt to the members of that Committee, especially in view of the very heavy responsibilities which rest upon their shoulders.

Disarmament and War Debts

Then there is the problem of disarmament. We are a peace-loving country, and no nation since the War has done more in the interests of world peace than our own. We have cut down our armaments to the utmost limits compatible with national security, and it is the British scheme which forms the basis of the discussion at Geneva today. We can go no further on the road of one-sided disarmament because the security of the Empire is one of the great bulwarks of world peace today, but we will not relax in our efforts to bring other nations into line with us. There can be no doubt of one thing, that if once re-armament began in Europe not only would the dangers of war become a far more serious menace, but the competition in armaments would impose an intolerable burden of taxation on the people of this and every other country.

We are faced, in addition, with all the complicated problems of War Debts, foreign exchanges, and international currencies, which have been some of the most serious factors underlying the world trade depression. They are of vital concern to this country because complete trade recovery must depend to a large extent upon our regaining markets which we have lost in foreign countries owing to the universal depression. By means of the Ottawa agreements we have laid the basis for a large expansion of trade with the countries of the Empire, but we cannot trade with the Empire alone. We need increased markets for our exports wherever we can find them, and for that purpose we want to see the wheels of international trade revolving smoothly without the hampering obstacles which have complicated international business for the last few years.

Recovery Without Dictatorship

During these last two years our country's prestige in the world has been enormously increased, largely because foreign countries admired the way in which all sections and classes decided to put party politics on one side and co-operate in order to rescue the country from the morass into which it had fallen. They have watched our steady progress under the most difficult conditions, and they have seen our country returning to a more prosperous condition without any constitutional upheaval or recourse to those dictatorships which seem so popular in the world today.

All we ask of you is that you should recognise this fact, and give us your renewed help and support and confidence in this work of national and imperial restoration. All we need is the opportunity to develop to the fullest possible extent the policies which have already been productive of such striking results. If our policy of protective measures were now to be abandoned, the whole basis of our present industrial recovery would be shattered.

There is one more serious menace even than that confronting this country. At the Socialist Party Conference you have seen that that party is turning more and more in the direction of extremism, and is advocating policies which would only wreck our constitutional system and undermine the fabric on which our industrial prosperity is slowly but surely being rebuilt. If such policies were put into operation, all the work that has been accomplished during these last two years, and which will, I am confident, bear ample fruit during the years that lie ahead, will be brought to naught, and the state of this country within a very short time reduced to a far worse condition than that from which it was rescued two years ago at the cost of so much hardship and so much self-sacrifice.

The defence against that menace is the continuance of the co-operation on which the present National Government is based, and I appeal to all who have the interests of our country at heart to hesitate long before they return to party strife, or put their faith in policies of which class-warfare is the very essence. We have need of the help and support of every class and section of the community, and we believe that the improvement in the position of our country, both at home and abroad, gives us the right to appeal for it.

The Commonwealth of Nations—III

Nations in Equal Partnership

By Professor R. COUPLAND

YOU will remember from last week's talk that, as the result of the 'Durham Report', Canada, and subsequently the other colonies, obtained responsible government, but that the field in which it operated was restricted to domestic or internal matters. External matters—of which the most important were overseas trade, defence, and foreign policy—were reserved for the control of the British Government. To maintain this control the Governor, who, besides being the representative of the King, was also the agent of the British Government and responsible to the Secretary of State, could intervene in colonial politics. He could veto a bill which trespassed on the external field. A bill, furthermore, could be reserved for the British Government's consideration or *disallowed* at its discretion.

The Dominions Take Over the 'Reserved' Subjects

Now it was not long before the Canadian people invaded the first of those 'reserved' fields—overseas trade. The economic system of the Second Empire had remained a single system, like that of the First; but in the eighteen-forties its basis was completely changed from a system of protection and preference to a system of free trade. British statesmen imagined that the colonies would acquiesce in this change-over, and they might perhaps have done so if they had been content to base their economic and social life on primary production only. But they wanted to develop secondary industries, and in order to protect these infant industries from the competition of old-established rivals abroad, in 1858 and 1859 they put on tariffs—not only against foreign states, but against Britain. Naturally there was an outcry among British manufacturers. Naturally the Colonial Secretary protested. But the Canadian Finance Minister declared that self-government would be utterly annihilated if the views of the Imperial Government were to be preferred to those of the people of Canada! He was right. The British Government gave in. Canada had thus acquired 'fiscal autonomy'—the right to deal with overseas trade, by tariffs or otherwise, as she chose. And this right was presently handed on, so to speak, to Australia and New Zealand.

About ten years later, the second 'reserved' field, defence, was also occupied. Self-government, it was felt, implied self-defence, and about 1870 the garrisons of British troops were withdrawn from most of the self-governing colonies, leaving them to provide their own land-defence with their own powers and at their own cost. Sea-defence remained in charge of the British navy, but after 1887 the colonies assisted in its upkeep first by money contributions, later by building naval units for incorporation in the main fleet or for local squadrons.

That brings us straight to the third and last 'reserved' field—foreign policy. It was on foreign policy that the issues of war or peace depended. Yet into this field the colonies, even when they had grown into national Dominions, long hesitated to intrude—mainly, I think, because they were more interested in the development of their own free new countries than in the tangled affairs of far-away old Europe, where the chief threads of foreign policy were being spun. Perhaps, too, they felt that international diplomacy was a game in which they had had no practice and was better left in the experienced hands of the British Foreign Office. But this acquiescence in a foreign policy which affected them all being shaped over their heads without their having a will in it would not have lasted as long as it did if they had realised that the safety and prosperity not of some corner of Europe or Asia only, but of all the world, were at stake.

The War—Proof of Imperial Unity

At the opening of this century, then, on the eve of the World War, the five Dominions were nearly on an equal footing with Britain. Except in that one field, in foreign affairs, their peoples completely governed themselves through their own parliaments and their own responsible Ministers. To that extent British freedom was as full a freedom overseas as in Britain. But did the growth of freedom in the Dominions mean that the unity of the Empire was breaking up? At first sight it might almost have seemed so. Such attempts as were made at closer consolidation, whether political, by some form of imperial federation, or

economic, by some scheme of imperial preference, broke down. Apart from consultation by cable and dispatch between the British and Dominion Governments, the only machinery for enabling them to act together was the Imperial Conference, a gathering of Prime Ministers which only took place every fourth year, and which could not make binding decisions. The Prime Ministers could only assist at provisional agreements for imperial co-operation, and submit them to the free judgment of their separate and independent parliaments. No wonder that foreign critics, observing so much freedom, supposed that there was very little unity. No wonder some of them imagined that, if war broke out in Europe, the peoples of the Dominions, so far away, so little interested in foreign affairs that they still left the management of them to other hands than their own, would keep sternly aloof from the matter of death and destruction in the Old World, even if it meant the severance of their ties with Britain.

You know what happened. A million men from the Dominions came to Europe. One hundred and thirty-four thousand died. Their youth and strength and courage had an incalculable effect on the actual course of the War. But there was more than that in it. Their coming showed that the dispersion of the British race all over the world had not meant a dissipation of the strength of British ideals. The peoples of the Dominions, not a whit less than the people of Britain, had asserted their right to the title which Lord Balfour once gave to his countrymen—'the immemorial champions of freedom'. Those new nations, those young democracies, felt that Prussian militarism was the negation of the ideals of civic liberty and international equality for which each of them stood. So they came to fight, not for Britain, but *with* her, at her side, each for his own cause, which was the cause of all.

The Dominion forces were organised as national units, and their heroic record intensified the national self-consciousness of the countries whence they came. For the first time the Dominions felt that they stood on the same footing as the other nations in the world. They demanded, therefore, the full rights and powers of equal nationhood. They were determined at last to occupy the one still unoccupied field of self-government, foreign policy. Knowing now what it meant, they could no longer leave to anyone else the task of keeping their peace.

Winning the Status of Separate Nations

Effect was soon given to this resolve. In 1917, the Dominion Prime Ministers, gladly accepting the British Government's invitation, came to London and constituted, together with the members of the British War Cabinet, an Imperial War Cabinet charged with the general control of the war effort of the Empire as a whole. At the Paris Conference, similarly, the Dominion plenipotentiaries joined with the British in the British Empire delegation, thus maintaining the old principle of imperial unity; but at the same time they decisively asserted the new principle of equal nationhood. Backed by the British Government, they secured the acquiescence of the Allied and Associated Powers in their participating in the Conference as the representatives of separate nations, on an equal footing, for example, with Belgium or other independent states. Thus, separately empowered by the King, they separately signed the Treaty of Versailles, including the Covenant of the League of Nations; and the Treaty was separately ratified by their Governments after discussion in their parliaments. It was further agreed that, in future, the Dominions would have their own ministries of External Affairs, would conduct their own negotiations with foreign powers, and in matters of purely local concern would conclude their own separate treaties. But on all questions of common interest they would continue to consult each other and do their best to act together. Thus the last field was occupied. The scope of Dominion citizenship was now in fact as wide in all respects as that of citizenship in Britain.

The New Principle Applied to An Old Problem

This new Dominion Status provided a new approach to the Irish problem, which had been accentuated by the War. Ulster's opposition to a new Home Rule Bill in 1914, the

In the Backwoods



A typical Group Settlement in Western Australia

E. O. Hopp

mishandling of Irish recruitment, the Republican rising at Easter, 1916, the growth of Sinn Féin agitation culminating after the War in widespread rebellion, the murderous irregular fighting that ensued—as the outcome of all this, the gulf seemed to have opened once more to its widest; and it was to the general relief that the 'war' was ended in 1921 by a Treaty which declared in its opening words that 'Ireland shall have the same constitutional status in the community of nations known as the British Empire as the Dominion of Canada' and the other Dominions. The six north-eastern counties, by agreement, remained in the Union, still sending their representatives to Westminster and sharing in its legislation and taxation, but furnished now with a separate but subordinate government and parliament of 'Northern Ireland' for local purposes. The rest of Ireland became the 'Irish Free State' under a parliamentary constitution drafted in accordance with the Treaty; and since then, the Irish Free State has enjoyed the same full measure of self-government, the same equal nationhood as Canada.

Dominion Status, meantime, had been defined in writing. The Imperial Conference of 1926 declared that Great Britain and the Dominions are 'autonomous communities within the British Empire, equal in status, in no way subordinate one to another in any aspect of their domestic or external affairs, though united by a common allegiance to the Crown, and freely associated as members of the British Commonwealth of Nations'. Each member, the declaration continued, 'is now the master of its destiny. In fact, if not always in form, it is subject to no compulsion whatever'.

What Dominion Status Implies

It only remained to bring the old legal forms into accord with the new political facts. In the executive field, the more important steps were as follows. Firstly, the principle that in a matter concerning a Dominion the King acts on the advice of his Dominion Ministers was confirmed; secondly, it was decided that Governors-General should act only as representatives of the King and not, as previously, also as agents of the British Government.

In the judicial field, it was declared that the question of retaining the right of appeal to the Judicial Committee of the Privy Council ought as a rule to be settled in accordance with the wishes of the members of the Commonwealth primarily concerned, and that disputes between governments should be dealt

with by an arbitral tribunal of five persons appointed *ad hoc* from within the Commonwealth.

In the legislative field, it was agreed that the powers of disallowing or reserving Dominion legislation on the advice of United Kingdom Ministers were now obsolete; and the equal authority of all the parliaments was established by the Statute of Westminster, enacted by the parliament of the United Kingdom in 1931 at the request and with the consent of all the Dominions. The preamble of this Statute affirmed that any alteration in the succession to the Throne would require the assent of *all* the parliaments, and its main provisions were that in future (1) no Dominion Act would be invalidated by reason of conflict with a British Act or with the principles of English law, (2) Dominion parliaments could legislate with extra-territorial effect, and (3) the British parliament could not legislate for a Dominion except at its request and with its consent.

The operative sections of the Statute do not yet apply to the Commonwealth of Australia, New Zealand, or Newfoundland, because they have not yet been adopted by the parliaments of those Dominions.

Thus the long process of assimilation has reached its end. In form as well as in fact the Dominions are the equals of Britain, 'in status', as an Australian writer has put it, 'if not yet in stature'. And in stature, too, the difference is not so great as it was. Add together the populations of the Dominions—roughly ten million in Canada, seven million in Australia, three million in the Irish Free State, nearly two million in South Africa (exclusive of coloured races), one and a half million in New Zealand; three-quarters of a million in Newfoundland—and you get a total of over twenty-four million, which is more than half the forty-six million of the United Kingdom. Quite certainly, before very long, there will be more British citizens in the Dominions than in the Mother Country.

What a power that is, or ought to be, for freedom and peace in the world! A power for freedom, because the Commonwealth is a brotherhood of democracies, which believe that all the citizens of a state should be equal before the law and should be governed on a basis of free discussion, and are determined to stand by that faith through the storms of this post-War age. A power for peace, because the Commonwealth is a society of nations, proving by its living example that nationalism *can* be reconciled with internationalism, and that nations *can* preserve their own individual freedom and yet unite with other nations for more than selfish ends.

Spiritual Progress of a Modern Writer

A Modern Prelude. By Hugh I'Anson Fausset. Cape. 10s. 6d.

IT IS DIFFICULT TO ASSESS the value of such a book as this. Every account of a human life written with sincerity has a value. And Mr. Fausset's *Modern Prelude* is undoubtedly written so. The greatness of the value, however, must depend in part on the greatness of the writer and it is perhaps only the very greatest whose confessions have a permanent value for mankind. Mr. Fausset will, I know, forgive us if we cannot attach the kind of value that belongs to the Confessions of St. Augustine to this book of his, while yet asking us to realise that we have much to learn from so frank a revelation of the spiritual progress of a man young when the War broke out and belonging definitely to the war generation, though—for reasons of health—not himself a soldier. And he would be right. Mr. Fausset's experience is of value to the world, and the more interesting and valuable because of its frank discussion of the effect on him of the teaching and experience of others of his own generation. Certain names occur to one's mind immediately as being either typical of the war generation or of teachers—men of an earlier age—who influenced that generation.

Mr. Fausset's book begins with his own father and, when all is read, my own impression is that the analysis of that particular individual, neither famous nor influential, is the most moving and certainly one of the most interesting things in the whole book. Mr. Fausset suffered from repression as a child and as a boy—repression of a kind severe even for that pre-War period; and sometimes his exposure of his father's temperament and motives is so clear-sighted as to be almost brutal: *almost*—for in fact the final impression on one's mind is not of brutality, nor even of condemnation, but of a real understanding, achieved through suffering and overcoming in the end the bitterness of resentment. In spite of the modern desire for freedom, and the belief that it has been to a very considerable extent won, I cannot think that such characters as that of Mr. Fausset's father will cease to be. As long as men aspire and life is hard, and the hardness too great for the aspirations of many of us, such characters must exist, and have a universal interest

just because their difficulties and their failures are so common to humanity. Perhaps the same may be said of Mr. Fausset's discussion of others whose names are well known, such as Middleton Murry, D. H. Lawrence and Bertrand Russell. Here, however, I find his understanding less complete and his judgment of rather less value. It is therefore not so much his judgment of these men and their work as the fact that he does judge them and think them worth discussion, that is of interest to us. In a word, it is Mr. Fausset and those many who have much in common with him which is of interest, rather than the men they criticise. Indeed I am compelled to ask myself whether it was necessary for Mr. Fausset to dip his pen in vitriol as he does when writing of Mr. Middleton Murry? There is a curious likeness between the processes of Mr. Murry's spiritual development, and of his writing of the same, and that of Mr. Fausset's. Both, I believe, will seem to the reader to have rather persuaded themselves that they have achieved freedom than really to have done so. Undoubtedly they have gone some way along that path; but is the egoism which repels the author of the *Modern Prelude* when studying Mr. Murry's books not found in his own works? I am not, I hope, falling into the silly mistake of supposing that everyone who gives an account of his spiritual development is thereby shown to be an egoist: it is in the way the thing is done. Mr. Fausset's suggests a certain resentment against those who have taught him something, led him a certain way, and then failed him. Every judgment he passes has its value, but all of them together leave one under the impression that his final (or is it final?) refuge in an esoteric and synthetic religion is no more satisfying or creative than anything invented by them.

Yet Mr. Fausset has shrewd and wise sayings which make one look with eagerness for another and perhaps more final work from him. I will quote only one, not because it is more true than others but because it is so enormously needed: 'Sweet, certainly, were the uses of auto-suggestion and, *when based upon reality, beneficial*'. The italics are mine.

MAUDE ROYDEN

The National Character—III

The Mingling of the Races

A Discussion between ARTHUR BRYANT and Professor H. J. FLEURE

A RTHUR BRYANT: Though I am by way of being an historian, I am no anthropologist. So this is something in the nature of a golden opportunity for me. I am going to pump you for your expert knowledge, to try to find out how far we can attribute any of the peculiar characteristics of our national character today to one or other of the various races from whom we are descended. You will find I am quite ignorant about your subject, but I hope you will put up with my questions. I have often wondered how many and what kind of races have gone to make up my blood. I myself am, I suppose, a typical ordinary Englishman: with a certain amount of Welsh blood, but, so far as I know, no Scottish blood at all. Can you tell me

others, are representatives of particular races, or is it just accidental? I suppose most of us are a kind of jumble?

H. F.: Many of us; in fact, we carry what one may call blocks of characters from various ancestors, and sometimes the block includes a great many characters from one source. I suppose we rarely, if ever, have all our physical inheritance from one type.

A. B.: By the way, is it true that it is possible, by measuring one's head and face, to discover what kind of race one does belong to?

H. F.: Certainly one can measure and observe racial characteristics. One of the best known of these is the relation of the breadth of the head to the length of the head. Take the measurements with callipers. From the ridge above the root of the nose to the point furthest back on the head is the length. Then you take the greatest width of the head, wherever it happens to come—under the hair, of course. The maximum breadth may be anything from 65 per cent. to 90 per cent. of the length. Those for whom the figure works out at less than 73½ per cent. have very long heads. If the figure is between 73½ and 78½ per cent. they have ordinary long heads. If it is over about 80½ per cent. the heads are broad.

A. B.: And having done that, what does it all mean?

H. F.: These and many other details are very valuable in trying to sort out racial types, because, you see, the people of Central Europe nearly all have broad heads, while many people of the Mediterranean and the north-west of Europe have long heads. In this country some of the long heads are related to those of the Mediterranean peoples and others to those of the people of the north-west, and it is very difficult to sort these out. In fact, many of our people are just betwixt and between the two groups.

A. B.: And does the transmission of mental characteristics coincide with these physical characteristics like long heads and broad heads?

H. F.: We are still at a very early stage of the study, but we do seem to see that some physical and mental characteristics often go together. The big, broad, domed heads of men with strong faces and very strong brow-ridges began to come into England about four thousand years ago. They were known in prehistoric times by the beakers they put in their graves, and so they are called the Beaker People. We find them in various families and they carry a certain intellectual inheritance in many cases that is distinctive and that persists from generation to generation.

A. B.: Do some of the strains continue and others die out?

H. F.: I doubt very much whether any large element that has ever come to Britain has disappeared. We have got in South Wales and Cornwall and Hertfordshire—the Chiltern Hundreds and the country round about—as well as elsewhere, dark-haired, dark-eyed people, with long heads, whose physical characteristics can be matched in South-Western Europe, and a few skulls of that kind have been found in English graves. Of



Anglo-Saxon family

From 'Homes of Other Days', by Thomas Wright

what I am made of—I mean, apart from 'snips and snails and puppy-dogs' tails'?

H. J. FLEURE: I should say that we are all very much a mixture of the descendants of prehistoric peoples. You know how we say that people take after their mother or their father. Well, it's the same with us—some of us are more like one and some more like another of these ancient peoples from whom we have descended.

A. B.: The important question is—who were these people?

H. F.: That's a big question: there were lots of them. First of all, there are amongst us still some people who are of the same type as the peoples who lived and died and were buried in West Europe in the later part of the Old Stone Age. Then, again, there are people amongst us who are physically the descendants of those who brought civilisation to our shores from about four thousand years ago onward. Some of them came by sea from the Mediterranean and some of them came across Europe, and then there is that whole succession of later comers—Celts, Anglo-Saxons, Romans, Norsemen and all the others about whom the history books tell us. We have many ancestors of earlier as well as of later times, and the medley that has resulted is a leading character of our country and its people. In the map of Europe, reproduced here, you will see that Europe is placed North-West upwards. . . .

A. B.: Yes, I wondered why.

H. F.: You will see how Britain seesaws on Cap Gris Nez? That is why. That is a fact which runs right through our national life.

A. B.: I see. We have had a number of early invasions and later influences from both sides, owing to our geographical position, and so a good number of possible ancestors. I suppose, though, that it might be true to say that most of us belong to one or another of the predominant races who together make up the nation?

H. F.: Only moderately true, because, you see, many of us carry some racial characteristics from one side and many others from another side.

A. B.: I suppose that is why one sometimes hears people say that Mr. MacDonald, to take an instance, is a pure Celt, or that Sir Henry Page Croft looks like an Anglo-Saxon. One might have thought that after all these centuries all the various races would be blended in us. Is it true that these gentlemen, or any



Map showing waves of immigration into the British Isles
The map has been tilted to emphasise the seesaw position of the British Isles between North Sea and Channel

From 'Ourself', B.B.C. 1932-33

course, we don't know what colour their hair and eyes were, but we know enough to argue that this element in our population came north to Britain in prehistoric times and to say that their blood is still a very important feature in our country today. Among them, in remote, isolated spots, we even find men whose heads are extremely long, with deep-set eyes and heavy brows and very dark colouring. So far as we can judge from their bones, they are very like people who inhabited Western Europe and parts of Africa in the later portion of the Old Stone Age.

A. B.: Before we go any further, and discuss the results of the various races that came here, I want to make certain I have got the sequence right. After the Stone Age peoples came the Celts, didn't they?

H. F.: The next people who came to our shores were the people who built the great stone monuments like the Irish and Cornish cromlechs and dolmens, Stonehenge and Avebury, and those Beaker people that I mentioned just now.

A. B.: But they were the Celts, weren't they?

H. F.: I think there is only one scholar who would attribute the Celtic influence to the Beaker people. Celtic invaders were later, so that a large proportion of our population, especially to the West, is pre-Celtic.

A. B.: Did the Celts—who were, I believe, a fair or red-headed race—make much impression on the permanent stock of the southern part of this island? Or were they only a temporary aristocracy, who became merged with the old peoples they conquered?

H. F.: You began by saying you didn't know anything, but you know that the Celts were fair or red-headed. Nine people out of ten you ask would say they were dark. Actually the leaders of the Celtic invasion are supposed, on grounds of reference in classical

authors, to have been fair and red-headed. I suspect very much that they were an aristocracy that imposed its language on the people.

A. B.: I take it, then, that the popular idea that the majority of dark people in this country are Celts is quite wrong?

H. F.: Yes, on physical grounds. These dark people are the descendants of those who were taught the Celtic language by their conquerors. The fact is that the Welsh people have forgotten one less language than the English.

A. B.: After the Celts the Romans, I think?

H. F.: Correct again—but that's history this time, so I won't complain.

A. B.: About the Romans, for four hundred years Britain was as much a part of the Roman Empire as Morocco now is of the French. Historians generally tell us that this had very little effect on the future character of our race. But is this true? Did not the Roman administration lead to inter-marriage between peoples from all over the Empire? And would not soldiers from Italy, Iberia and Gaul, etc., have wedded native British girls?

H. F.: I certainly think there was a good deal of mixture under the Romans, far more than there is, for instance, under the influence of the British in India. The Romans had no objection to race inter-mixture, and they have passed on that attitude in race questions to the Latin civilisations and to the Roman Church. The historians who say that the Romans had very little influence on our population are probably those who take the view that the Anglo-Saxons wiped out everything they found in England. Now I don't agree with that. Nor would you, I think, if you read Mr. Leeds' fine studies of early Anglo-Saxon settlement. All we can say is that after a conquest the original peoples have a way of re-asserting themselves. This happens time after time.

A. B.: This is terribly disturbing. I used to be taught at

school that the Saxon invaders massacred the entire population, and that we are entirely descended from Germans. Is that idea completely untrue, and what sort of people were these German invaders?

H. F.: If you want to understand the emigration of the Germanic peoples I can tell you some books to read. Professor Chadwick deals with the place from which they came and Mr. Leeds with the place to which they came. It is a complicated subject, but we can say that they came mostly from North Western Germany and South Jutland, and so far as we can gather, they were long-headed and fair-haired. They were accustomed to village life and lived by farming, and I feel sure they didn't make the widespread massacres that they are supposed to have made. They probably gave a large part of our physical inheritance to the east-coast counties, but were less important in the Midlands. I think most students would agree with this in the main.

A. B.: I believe I am right in saying that the next people who came were the Norsemen? What sort of folk were they? Did they leave any permanent effect on us? And is it true to suppose that there is still a certain extra toughness in those parts of England where they mostly settled, such as Yorkshire and Lancashire?

H. F.: It is very difficult to say. I feel that if we had a really large-scale survey of the British people along lines that would help us to appreciate local characteristics, we might learn a great deal on points like this.

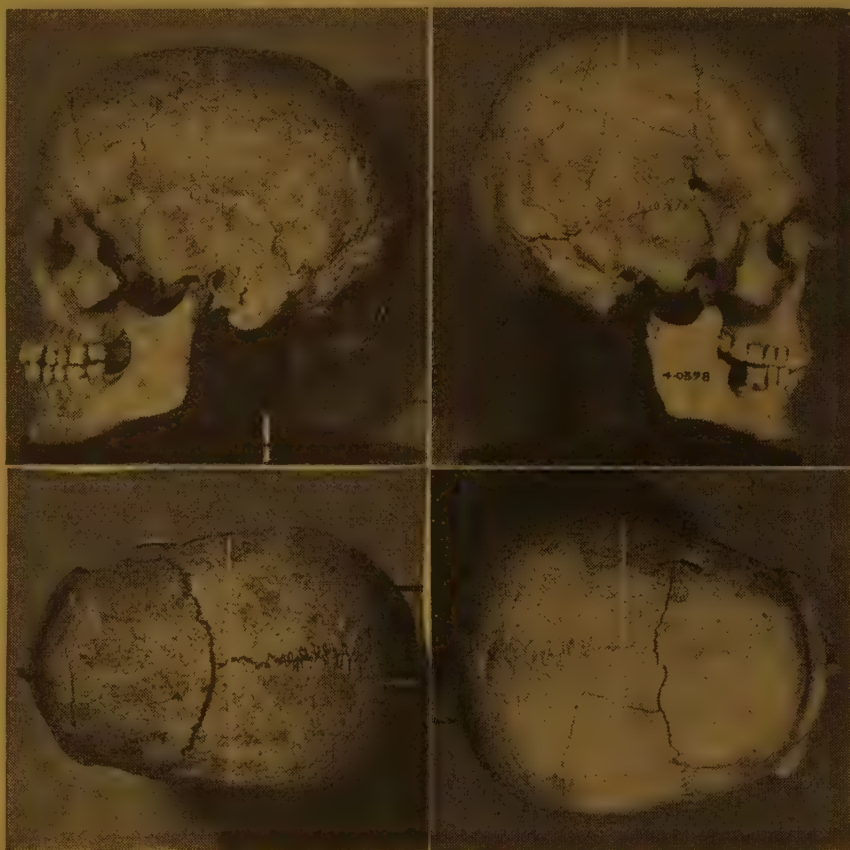
A. B.: I want to ask one more question about the Norsemen. Norsemen suggest Vikings, and Vikings suggest the sea. Do you believe that they introduced a craving for the sea into our blood, as our poets and historians maintain? Or do you think that our maritime genius is due solely to the opportunities

for sea trade presented by our coast and the accident of our geographical position between the old world and the new?

H. F.: It seems to me that neither the situation of Britain nor the Norse contribution should be too much credited with what you call the maritime genius of Britain. It was very largely, I think, the opportunities of the spacious days of great Elizabeth that converted us to the sea. In that period our world position rather suddenly changed. Before then we had been on the edge of the Old World, and then suddenly we became a stepping stone to the New. Kipling says that the West Wind is the Home Wind, for it brings the English home. It was a better friend to England than to Spain, and I think we owe a great deal to it. It was necessary to have the time as well as the circumstance favourable for the development of maritime life.

A. B.: Then the next of our invaders were the Normans, who I believe were a kind of Norsemen. Did they differ much from the Norsemen? Not very many Normans could have come here. How do you account for the fact that they appear to have had such an influence on our character? Was it mainly because they were great administrators, or can it be due to some extra virility in their veins that made a little blood go a long way? Or perhaps you don't think that the Normans had much effect on us?

H. F.: There was no doubt a strong Norse element in the Normans of the Conqueror's time, as there still is among the sailors and fishermen of Western Normandy, but I expect that already the peasantry of Normandy, then as now, included lots of those solid, serious people who still love and work the soil of sunny France. This type, often with thick shoulders and round heads, is not common among us in England. I expect the Normans who came and stayed were more Norse, and probably more aristocratic, than the average Norman of that time, and were correspondingly more Norse than the average

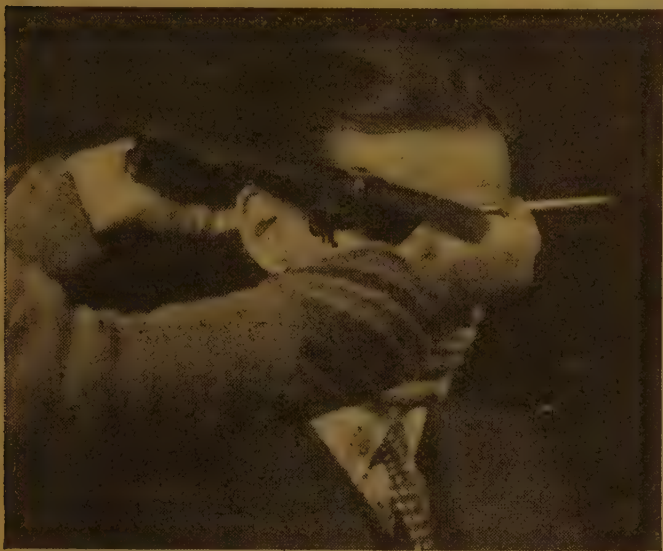


Side and top views of typical longhead (left) and roundhead (right) skulls, showing comparable lines of measurement

By courtesy of the Royal College of Surgeons

Norman of today. But certainly I think they had a very great influence. They provided by administration and by many new contacts a means whereby the growing mediæval culture of France, with its artistic triumphs in architecture, glass, carving, illumination and romance, and all sorts of things, was able to enrich our national life. We ought to remember that we owe a very great deal to mediæval France.

A. B.: Now I think that disposes of the invaders for a moment, and we come to a period of peace. A thing that has always struck me very much is that from the one date we learnt at school—William the Conqueror, 1066—right up to the time of Elizabeth, there was very little influx of foreign blood into this island. Even the Jews appear to have been banished—and the Welsh, Scotch and Irish were far too busy fighting with us to inter-marry with us. One sometimes hears social philosophers, perhaps quite wrongly, pointing to this as a golden period in our history; do you think there is any connection between this fact of racial immunity and their idea of a golden age? For



Head measurement with callipers: finding the relation of the length—

instance, is racial immunity from alien influences a good thing for a nation?

H. F.: First of all I should say we were not a unified race in 1066: we were a great medley already, and that medley is a very important element in determining our character. I disagree very strongly with the idea that this was a golden period in our history. Scarcity of food seems to have been frequent in winter, and I think we had a very severe struggle. But it was in that time that the people of the south-east of England, at any rate, learned to think of themselves as one, and the absence of invasions helped them to develop local and national tradition. So that we have a nationalism in this country that is hundreds of years older than nationalism in many parts of Europe.

A. B.: A sort of settling-down time?

H. F.: Yes. We must, then, remember Mr. Havelock Ellis' contention that Kent, Norfolk and the Welsh Border are regions which have produced special ability. In each of these there were culture contacts. That is to say, the people in Kent and Norfolk came into touch with France and Flanders, and the people of Shropshire and the Border counties came into touch with Wales. That helped people to understand other ways of life and to be objective in mind—that is, able to look even to some extent at themselves from the outside. That, it seems to me, is one of the very important elements of ability and civilisation. The Darwins of Shropshire, the Cokes, Gunners, Buxtons of Norfolk and many another family come into one's mind.

A. B.: That raises the question of the influence of our neighbours. From the end of Elizabeth's reign onwards the English had steadily increasing relations with the Scotch and Irish, and with the Welsh from a somewhat earlier date. Do you think this commerce much affected the English character? And would you say that the modern English are far more affected by the inflow of Scottish, Welsh and Irish blood into England than, say, Scotland, Wales and Ireland are by the inflow of English blood?

H. F.: I should say that Scotland and Wales are very much affected by the flow of ideas from England into those countries.

But in my opinion the influx of Scottish and Welsh people into England has had much more influence on our character than the flow of English has had on the character of Wales and Scotland. Until recently Scotland and Wales have had restricted opportunities for large growth of population; they have had to send away their sons and daughters—as I think to our great gain. The chances in England and the British Empire have been a great thing for both the Welsh and the Scottish people, hence the phrase, 'The Scottish Empire'.

A. B.: I'm afraid I'm being very historical in my questions, but that is my job. Now from Elizabeth's time onwards, it became the practice of successive English governments to encourage the settlement here of foreign craftsmen, driven out of their countries by wars of religion and other causes—Flemings, Jews and Huguenots, etc. In what ways have these immigrants affected the English character?

H. F.: Without having specially studied this point I feel that we owe a great deal, as do Holland and Germany, to the work of refugees. The relation of the core of our industrial leadership in some of the northern cities to the Huguenots seems to me to have been a big thing. It appears to have been very important in some of our intellectual Nonconformist groups, perhaps especially those which have become Unitarian and which have played such a part in the life of Manchester, Liverpool, Leeds, Sheffield, and many other places. In the same way, I think, it had a great deal to do with the rise of Prussia in the eighteenth and nineteenth centuries. It seems to me that refugees are very valuable persons in most cases, when they are refugees for reasons of conscience.

A. B.: All the same, one sometimes hears it said that England was too generous in her hospitality. During the nineteenth century, it was claimed that England offered a refuge for persecuted refugees from all countries in the world. Do you see any signs that this flood of alien blood into the poorer quarters of our cities had any effect—possibly for the bad—on our general characteristics?

H. F.: The flood of alien blood in the poor quarters of our



—to the width, for the purpose of observing racial characteristics

Illustrations by courtesy of the Royal Anthropological Institute

cities, and especially of our sea ports, is certainly a very important feature, but it must not be exaggerated. I believe that there has been a definite change in the type of our industrial population, as a result of multiplication of some of the very old strains amongst us in cities in industrial areas. But I doubt whether the aliens of recent immigration have altered our general character very much. Our national tradition is old enough and strong enough to influence even the very latest comers. You see this particularly when it comes to the second generation.

A. B.: That is rather a significant remark when one remembers that the leader of a great foreign nation at the present time is proclaiming the supreme importance of a nation's maintaining the purity of its blood. Is 'racial purity' of any value?

H. F.: My argument has been so far in favour of the medley of peoples, provided the country has a sufficiently strong tradi-

tion of its own. I feel that attempts at regaining what is called racial purity are unwise and futile in the long run from a national point of view.

A. B.: One thing I sometimes hear said is that most of our leaders today possess Jewish blood—and that their capacity for leadership or their unfitness for it (and this always varies according to the point of view of the speaker) is due to this circumstance. Do you think there is anything in this? And, if so, how is it compatible with the fact that, till the end of the eighteenth century, there appear to have been very few Jews in England, and those mostly confined to London?

H. F.: I doubt very much the statement that Jewish blood is an important part of the make-up of most of our leaders. But I should like to emphasise that some of our British Jews have more than proved their ability to lead in affairs and in thought—for instance, Disraeli the statesman, and today, Alexander the philosopher.

A. B.: One more question. Is there any ground for assuming that a people exhibit the signs of individual old age as they grow more mature as a nation? That, for instance, the excessive caution and love of playing for safety that is sometimes said to characterise modern England is a sign of this?

H. F.: I do not accept the thought that playing for safety is a characteristic of modern England. I think there are many things in our public life that suggest just the reverse. Whether we were right or wrong in 1914 we certainly were not playing for safety. In the attempted settlement of the American debt after the World War, or in going off gold in 1931, we were adventurers taking big risks.

A. B.: I am not sure that everyone would agree with you there. But to go back to my question—does a nation get old in the same way as a man or woman does?

H. F.: No, I don't think so. Neither should I be inclined to accept the thought that there must be signs of old age in a people that have grown mature. I think that life is always presenting us with new opportunities, and that we have the chance of going on indefinitely as a people, no doubt with ups and downs.

A. B.: So in fact you're an optimist about our future, to be honest. I think I'm one too, though perhaps for different reasons. And if I may summarise what you have said, your general view is that that perpetual intermixture of race which, behind the sea walls of our constant frontier, has gone to build up our national character, is—in the immortal words of 1066 and *AN That*—'a Good Thing'.

Economics in a Changing World—II

Some Signs of Recovery

By Commander STEPHEN KING-HALL

There is evidence, Commander King-Hall thinks, of world trade recovery, but he adds warningly that 'the international political situation still threatens to provide us with a way back into the economic pit'

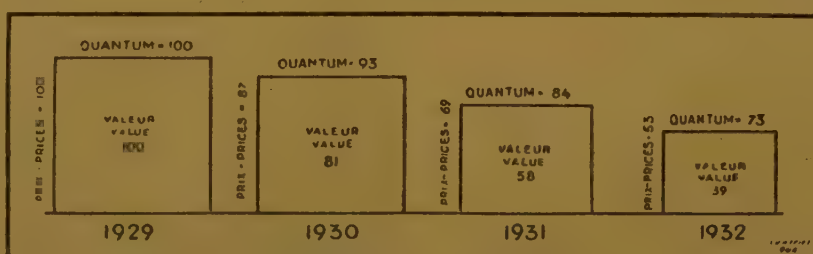
A FORTNIGHT ago the League of Nations issued a book called the *World Economic Survey for 1932-33*, which is the most authoritative account of the world's economic condition published in any language. I cannot honestly recommend it as light literature, for it is close packed with statistics and diagrams, but to anyone who wants facts and cautious comment this book is indispensable. It is a League best-seller. Our interest in it here is that from its pages one can extract a really shocking picture of the depths of depression into which the world's trade and production sank between 1929 and 1932. Let us take soundings and see how deep the depression has been and how the world economy has been tormented by men its masters. If you have a few coins handy and some coppers and a sixpence among them, I suggest you make four heaps of cash, their values to be as follows: sevenpence; fivepence-halfpenny; fourpence, and twopence-halfpenny. Against the sevenpenny pile put the date 1929. Against fivepence-halfpenny put 1930. Against the fourpennies put 1931. And finally, against the twopence-halfpenny put 1932. You will then have an approximately correct model of the fall in value of world trade between 1929 and 1932. Only there is one important point to remember, and that is that each of your pennies represents ten thousand million gold dollars! It is a pretty startling drop in value of world trade from the sevenpence, or seventy thousand million gold dollars, of 1929, to the little twopence-halfpenny, or twenty-five thousand million gold dollars, of 1932.

In the light of these figures the International Labour Office's estimate of thirty million unemployed in the world at the end of 1932 is understandable, and it can also be understood that in some countries, especially in Germany and the U.S.A., the pay rolls fell by 50 per cent. during these same devastating years. This great decrease in the purchasing power of the peoples was in part, but only in part, countered by the fall in prices and by the tremendous sums the governments were obliged to disburse for the relief of unemployment in order to assist the thousands who, if they had not the right to work, clearly had the right and the need to be kept alive. Of course,

the tremendous fall in the value of world trade was due to the fact that the prices of goods were falling whilst at the same time the quantity of goods being exchanged was growing less. Putting those two factors together one will not be far wrong if one says that in 1932 the quantity of goods being traded was about seven-tenths of the quantity in 1929, but the prices in 1932 were barely half those in 1929.

A bushel of wheat in 1929 fetched over a dollar in the United States of America; by 1932 it was only worth fifty cents., and after four years of depression not only were men selling and buying much less of everything, but the value in terms of money of nearly everything in which they traded had decreased substantially. World production of goods was disorganised, though the production of industrial goods suffered much more than that

of agricultural produce which, broadly speaking, maintained its volume. The twelve hundred million farmers of the world have continued to till the soil and tend their herds and plantations (what else could they do?), although their crops were selling for less and less money and the mortgage at



The Fall in World Trade 1929-1932

By courtesy of the League of Nations, from 'World Economic Survey, 1932-3' (Allen and Unwin)

the bank hung heavily over their heads. But when one examines the story of what was happening in the factories of the world it is a very different tale.

Twenty Years' Progress and a Decreased Output

By 1932 it is believed that the output of industrial production in the world was below that of 1913. Think what that means. Twenty years of progress, twenty years of clever invention, twenty years of toil and work by brain and hand, twenty years of experience, and mankind finds itself producing less manufactured wealth at the end of this period of twenty years than at its beginning. But there was one striking activity of man which I left out in my little picture of the last twenty years—the four years of war. Those four years are the clue to the riddle, 'How can man progress backwards in his factory production?' Now here is a piece of information which I warrant will surprise you. A curve has been drawn which shows the growth of the production of the world's industrial wealth. It starts in the year 1860, when those fine old Victorians I talked about last week

were in the full tide of their activities, and for year after year the curve mounts bravely and steadily upwards until it reaches 1914, when it begins to decline during the war years. If you take a pencil and draw that curve onwards from 1914 at the same angle at which it had been rising since 1860 it reaches a point in 1932 twice as high as the point it actually reached in 1932. In other words it is arguable that if there had been no war world production would today be twice as great as it is. You will find the curve I have been referring to, and also this suggestion I have just mentioned, in *The World Economic Survey*. And now for some good news. It comes from Geneva—I wish all the echoes from that sounding-board of world opinion were as pleasant—and from Australia: The Labour Office report for the third quarter of 1933 points out that as compared with a year ago there have been substantial decreases in unemployment in more than a dozen countries, including Great Britain, where the fall has been over half a million, and in Germany, where an unemployment figure of just over five million a year ago has now been reduced to one of just over four million. Australia, Canada, Italy, Belgium, France and the United States are other countries on the list. In Central Europe the situation has not improved. In a report to one of the League Committees, Mr. Loveday, who succeeded Sir Arthur Salter at Geneva, drew attention to considerable increases in the volume of production which had taken place between July, 1932-1933. Specially noteworthy figures were an increase of 22 per cent. in France, 18 per cent. in Germany and Japan, and 11 per cent. in Canada. The figure for the United States was 70 per cent., but here a word of warning is needed. That figure represented the peak of an increase in production due to the first wave of enthusiasm for the Roosevelt recovery plan, and it has not been held. Since July production of manufactures has been slowly declining. I expect either next week or the one after to deal at some length with the situation in the United States. At the moment everyone is anxiously waiting to see what, if anything, President Roosevelt proposes to do about the value of the dollar.

A word about Australia. This Dominion was one of the first important countries to be hit by the slump. After a sharp internal political struggle in the country she adopted the painful remedy of deflation. That is to say she reduced interest rates and wages, increased taxation and cut down her imports. The result of a process which must have caused considerable hardship to many people has been a great improvement in her credit. This enabled her to convert part of her external debt and save over a million pounds in interest. The price of some of her principal exports has risen, notably wool, and this has helped her balance of trade. A year ago the Commonwealth Budget was drawn up on the assumption that there would be a deficit of just over a million pounds. In fact it has produced a surplus of over three million pounds. The Australian Government has reduced taxation and lowered the tariff rates on certain British goods. Of Australia one may say, 'First in the slump and first out'. Notice for individual consideration, that the United States was the last great nation to feel the crisis.

Encouraging Board of Trade Returns

It is rather stale news now, but whilst on the subject of evidence of the beginnings of recovery I might remind you of the satisfactory nature of the last Board of Trade returns of United Kingdom trade which showed that both our exports and imports were up. A specially good feature of the import figures was that the increase was largely on account of raw materials, the foundation of our export trade in manufactured goods. Another promising pointer so far as this country is concerned was the half-yearly revenue returns which seem to give hope that the total revenue for the year will be greater than was anticipated and that this increase will be fortified by a decrease in expenditure. However, it is a bit early to start counting this particular brood of chickens, since from the revenue point of view the second six months of the financial year are the most important. This is the period—and particularly during the last quarter—when the income taxpayer does his duty. Talking of income taxpayers makes one think of the Chancellor. Mr. Neville Chamberlain made a speech recently to the bankers in which he named four main objects which the British Government would like to achieve in matters economic. First, a rise in wholesale prices, especially of primary products. As to the means by which this might be best brought about, the Chancellor stated that in his view 'There was no method so certain and so rapid in its operation as the control of production and the proper adaptation of supply to demand where that could be effected by international co-operation'. Some economists would

have been glad to hear the Chancellor supplement this remark with something about the possibilities of absorbing production and raising prices by increasing consumption, a line of approach to the problem strongly advocated at the World Conference by, amongst others, the Australian representatives. But on the other hand the Chancellor's second objective was along this tack, for he asked for the 'Removal or lowering of oppressive trade barriers'. He ascribed the existence of these barriers chiefly to the anxiety felt in many countries as to the international monetary situation. This reflection led him to state his third object, which was the re-establishment of an international monetary standard. Reviewing the various possibilities, Mr. Chamberlain expressed the opinion that the only standard likely to command universal respect was gold and that therefore it seemed likely to him that we should return to gold. 'But', he added, 'we in this country cannot consent to link our currency to gold until we are certain that the conditions prevailing are such as will permit a gold standard to function efficiently'. He added that he would not repeat what the conditions were but would only say 'they do not yet exist'.

Collective Security Wanted in Economics

What are the conditions to which the Chancellor was referring? They fall into two groups: first, political, and, second, technical. The re-establishment of an international monetary standard—be it gold or anything else—pre-supposes a willingness on the part of sovereign states to co-operate in matters economic. It means in the broadest sense that in certain circumstances individual states would be prepared to do things which, though desirable in the interests of the whole system, are not at the moment very attractive to their own peoples. It means a recognition that in the long run the interest of the individual state is best served by seeking to serve the interests of the community of states. It means the application in the economic sphere of that principle of collective security which the states are struggling to achieve at the Disarmament Conference in the field of politics. The whole root idea of the gold standard is that of tying up national currencies into an international whole. It is the automatic exchange of national subscribers and it will not work if nations leave their receivers off or short circuit the lines. The first obstacle to a re-establishment of an international standard in monetary matters is therefore of a political or psychological nature. If this can be overcome, if once the nations are filled with a genuine desire to co-operate in monetary matters, the translation of that desire into practical results is then a question of technique, of, amongst other things, co-operation between the Central Banks, for which purpose the Bank of International Settlements stands ready for use. Finally I would like to note the fourth objective mentioned by the Chancellor, and that was the resumption of international lending. One does not need any special economic knowledge to appreciate that lending will not start again until confidence is restored, and it must be admitted as we look round this changing and unsettled world that there are some chilly winds from the East which do not assist the always slow growth of confidence. If the evidence of recovery which I have mentioned improves the credit side of our balance sheet, the international political situation still threatens to provide us with a way back into the economic pit.

Real Time

Sound of near waters hidden now from sight
in gathering dusk; the hunting owl's strange cry;
or, breaking on the stillness of full night
some lone lamb's bleat, that utters piteously
want of its mother; the pale moonbeam bright
marking a silent progress through the sky;
the cock's first warning crow before the light
then, dawn's presage, the air's one shivering sigh;—
'Tis Time alive; life beyond mortal ken!
By this vast City's chimes what thought is stirred
that shuts me not in the sole mind of men?
Yet in that far hill cottage I have heard,
amazed, the solemn striking of Big Ben,
to my immortal soul a timely word.

E. LINDSAY

*God and the World through Christian Eyes—XIX**The Christian and God*

By FRANCIS UNDERHILL

The Very Rev. the Dean of Rochester opens the fourth course of the series, 'God and the World through Christian Eyes', with a consideration of the Christian attitude to God

MY subject is 'The Christian and God'. A large one: but it could be summed up in one sentence. The duty and happiness of the Christian is to know God. But I will go farther and claim at once that it is not only the business of the Christian to know God; it is the duty of every reasonable human being.

For what thinking man or woman is there who does not want to know whatever can be known about this strange and mysterious life we are now living? It *must* have a meaning. It is very difficult to convince oneself that one is like a momentary bubble, cast up by the vast play of unthinking forces, which happens somehow to possess consciousness of itself. We all stop for a moment sometimes and wonder whence we came, why we are here, and whither, if anywhere, we shall go afterwards. I think (though I am never quite sure), that if I were not a Christian, and had nothing to go on but reason, observation and probability, I should still think that goodness and justice ruled in the universe. But I should find it difficult to maintain the argument in face of what some might say who thought differently. At any rate, I am sure I know as a Christian a very great deal more than I could reason out for myself were I not one.

It is not for me to discuss here the truth and reasonableness of the Christian religion; that has been done already by those who have preceded me, and I am building on the foundations which they have laid. I go on therefore to say that as a Christian I believe God makes Himself known to me in Jesus Christ. Not everything there is to be known, or that I should like to know: but what I ought to know in order that I may try to be the kind of person God wants. And I find that I have enough and far more than enough for that purpose. The world after 1,900 years is only now beginning to see through the teaching of Jesus Christ something of what God is and wants; and we know well enough, each of us, how far we are from being what we ought to be, and could be if we followed His example more faithfully.

We know, I say, more than enough. I might go into detail as to what God through Christ actually has told us that He is; but that again is not my business here. We are to think about the Christian and God, and what should be the relation between them. And the heart of the teaching of Jesus is that man can know God, and can get into touch with Him in such a way as to understand what He wants of each one of us. Jesus teaches that man can speak to God; that God hears; and that a Christian can also, if he will, hear God speaking to him. In the broadest sense this is what is meant by prayer. You will forgive me, I hope, if what I say is exceedingly simple; to some it will seem altogether too elementary. But we have been asked to be as little technical as possible in this series of broadcast addresses; and indeed we all need to come back over and over again to simplicity in belief and prayer. I shall therefore make only two points. I shall first try to show that prayer is a reasonable exercise of the human mind. I shall then attempt to give some suggestions as to how it may be practised.

The Reasonableness of Trying to Pray

It cannot be denied that many people today find prayer very difficult and public worship in church dull. The chief merit in a service is brevity; let us get through this mediæval business of a church service as quickly as we can, if we feel bound to go, and turn back to the real modern business of living, which is a different matter altogether. We speak with evident approval of 'a little service'. It has been my fate to preach a great deal in public schools up and down England. When you enter the school chapel you are struck by the undoubtedly impressive spectacle of several hundred boys crowding the place. They sing heartily such hymns as they know, and sit patiently under the sermon. If you arrive on the Saturday night you are probably impressed by the number of boys who receive Holy Communion at the 8 o'clock service on the Sunday morning.

But I also go a good deal to the Universities of Oxford and Cambridge, where attendance at the College Chapel is usually not compulsory and the Holy Communion not part of the tradition upheld by public opinion. There the number of undergraduates at Sunday services is sparse enough; while multitudes of boys who were regular communicants at school lapse imme-

diately or not long after they leave. It is clear, then, if you take these young men as typical of the modern Englishman (and in this respect they are much like others) that they dislike church services. If they loved them, they would come to them, even without compulsion. The same thing is true of multitudes of English men and women in every walk of life. It is a sad story for those who love the Church, and far from new. I recall it here only in order to make the point that all these dear and delightful people, young and old, have somehow not learned what Christian worship means. They can never have realised the delight of the true Christian relation between God and man. For it is to be feared that not only public worship is disliked; private prayer worth the name is also far less common than it was. The number of homes where boys and girls are taught to pray is rapidly decreasing.

This is not the fault of Christianity, which is as warm, attractive and reasonable as could be, when it is properly set forth. And therefore, as a contrast to the class of people which I have briefly sketched, I will also put the picture of that large other class, often overlooked, who do worship and pray, and find there the true satisfaction of their natures. For there are vast numbers of them; it is quite untrue to represent our age as wholly given over to godlessness.

How do these people who really do love their worship of God in church and their private prayers justify themselves against the arguments of unbelievers or the indifference of the uninterested? I find that the more thoughtful of them give, in general, three reasons to account for their habit of worship. Firstly, they say, to pray is reasonable. If there is any cause to suppose that the world in which we live was made by a good and loving God, who placed each of us here at a certain time and place, in a certain race, family and tradition; if we believe, further, that this good and loving Creator is always trying to win our love and to use us for His eternal purposes; and if—even more wonderful—we believe that He has given to us the power to love and serve Him, and to come into close personal touch with Him; then, say these people, certain consequences inevitably follow. If all this which Christians believe is true, then not to be trying to pray is strictly unreasonable. It is, indeed, less than human, for it implies the refusal to use the noblest faculty which God has bestowed upon man. On the other hand, to be trying to pray is reason and commonsense. It is not specially pious or virtuous: it is just human.

Secondly, these people say that prayer and worship add a new attractiveness to all which is already beautiful in life. They maintain that sun and moon and stars, the wind on the heath, night and day, summer and winter, seed-time and harvest, rivers and mountains, foreign travel, driving a car, friendship and games and study—all these acquire a greater delightfulness for those who pray. For they see them, not as ordinary things in an ordinary world; they see them moving in the atmosphere of the Eternity of God.

But, thirdly, and greatest of all, these praying people claim that in the words of the old Scottish Catechism, 'Man's chief end is to glorify God and enjoy Him for ever'. And because knowledge of God is the first step towards that supreme happiness, and because they gain that knowledge chiefly in prayer, therefore they find the best of life in the worship of God. These three points, I think, put the claims of these people of prayer fairly and briefly.

The Chief Ways of Prayer

Nevertheless, a great many men and women still find prayer difficult and unattractive. I do not propose, however, to deal with any of these difficulties, though I could spend a long time in describing them. I think, however, that it is much better here to attack the thing positively, and to attempt a constructive outline of the chief ways of prayer.

The simplest and humblest kind of prayer is called *Petition*; just asking God for the things we need, whether for soul or body. Do not let us be put off by excellent highbrow folk who say that there is little merit in coming to God simply because we want things. It is indeed a very imperfect Christian attitude towards God which stops at petition, nor do I believe that there are many Christians who get no farther than this. All the same,

petition is a real and genuine form of prayer. Some people would persuade us that we cannot really be said to pray unless we 'retire into the silence' or 'contemplate God'. Well, let us thank God that there are people for whom such great things are possible. But we cannot all get there yet; and, meantime, let us be sure that God loves the prattle of the little child saying its prayers; and that He hears the requests of old women on hospital beds and of all the other simple folk who can do no more than their best. We are all meant to go as far as He leads us; but we need things every day which only He can give. And did not Jesus Himself teach us to say 'Give us day by day our daily bread'? God knows our wants, yet He loves that we should come to Him simply and humbly, asking Him to give us those things which are for our good.

The Only Effective Substitute for Fruitless Worry

A second kind of prayer is Intercession, or prayer for other people. Unselfishness is a primary Christian virtue, which is rightly shown in our approach to God. Intercession has been well defined as the activity by which we bring our wills to side with and work with the Will of God in particular matters. We come to know, in whatever ways, that such and such a person or people, known or unknown to us, have certain needs. Seeing this, we do not at once besiege God with requests that exactly what seems to us right may be done. No; we try to understand as clearly as we can what would be God's Will in the matter; and then, still submitting to Him as to the outcome, we try to set our will alongside His. We can do this on the biggest world-scale as well as on the small stage of our daily life and friendships.

Intercession does not absolve us from the duty of actually doing things to help our friends. We shall not only pray, and then remain inactive, but shall be up and at work as best we may. But neither shall we think that our activity is the chief thing. We shall also pray as effectively as we can. Often we can do nothing. But we can always pray, and prayer is the only effective substitute for the fruitless worry in which so many of us indulge. The Christian firmly believes that God uses his activity for the carrying out of His plans. But he also believes that God uses his thoughts and desires. These longings for the good of our friends we may turn into prayer. Sir Oliver Lodge once said that 'We are here to help God'. That is the greatest truth the Christian knows.

But the very experience we have of the difficulty of prayer and of our frequent distaste for it leads us to ask ourselves why so great and good a thing should so often be unattractive to us. Every serious Christian is troubled about his failure to live as he knows he ought. It is not only that he so frequently fails in prayer; it is that he often does things which he knows perfectly well to be wrong. People in these days shrink from the use of the word sin. Yet whatever we call it, sin is the matter, and it does not really help to substitute for the word 'sin' the words 'failure' or 'vice'. There is no sadder confession in human history than that of the Roman poet who said with a sigh, 'I see the things which are true and great, but I choose those which are poor and mean'.

The Christian has before him the noble example of Jesus Christ, and sees how far off he is from attaining to it. And therefore he is sorry, with a true kind of sorrow which leads him, not to despair, but to better things. Some years ago I was standing on the famous Temple Area in Jerusalem. A man (I do not know who he was, or why he spoke to me) suddenly said, 'Jesus Christ came to the world and set before men a way of living which was great and excellent, but too good for this world. Therefore Christianity has always been a failure. Muhammad came, and set before men a far lower ideal, but one which was possible of attainment. Therefore Muhammadanism is a success'. It sounds plausible, and cynically true. But it is utterly false, for what humanity really desires is the highest ideal it can see. It is true that the difference between what we see we could be and what we are leads us to repentance; but that is the kind of sorrow which leads to fuller and more perfect life.

Moreover, sorrow for wrong-doing is not merely a sentiment, it is an activity. The Christian tells out his sins to God because he knows that God loves and pardons. He knows, too, that power to live better is the gift of God to those who forsake the past and rise up to a nobler future.

'To be Still and Feel that God is With Us'

A word about what is called Meditation. Many persons who have quite good brains, and are quick-witted in other departments of life and thought, are frightened if they are told that Meditation is a form of prayer which they might well attempt. They think that it involves some long and intricate process of which they have dimly heard or read; but Meditation can be something much simpler than this. Let me explain.

We are always thinking about something, so long as we are awake. Whether the subject of our thought at any given moment is worthy or unworthy of a Christian, we are quite well able to think many matters out. Why should we not sometimes think about God, not just for a moment, but for some longer or shorter period? We shall be very wise if we fence off times here and there in which we can be quiet. It is a good plan each day to get

a definite time in church or elsewhere just to be still and try to feel that God is with us, as He is, whether we think of Him or not. We may find it easiest to start by having in mind some saying of our Lord Jesus Christ, or some incident of His life pictured in our mind. At another time we may think about some aspect of God's goodness, love, generosity or any other side of His greatness which we believe to be true and find attractive. Or we may find Him most quickly in a garden, on the hills or by the sea. All these are details; the one outstanding point is that we should train ourselves to spend quiet times thinking of God. Many persons who had thought that Meditation of this kind was far beyond them have been surprised and delighted to find how well they can do it if they try, and how profitable in every way it is. But further, these quiet times are not meant to be filled merely with our prayer; they enable God to speak to us. He is indeed always trying to reach us. But when we are still, away from the distractions of ordinary life, we can listen and He can speak as at no other time.

And Thanksgiving. In a book I wrote some years ago I asked my readers how many of them had ever thanked God for soap and hot water. I ask the question quite seriously again, for it is a test question. How many people have thought to thank God for a hot bath in the morning, or after a long day's work or a game of football? Yet it is in such simple and natural ways as these, as well as in greater ones, that we get into close daily touch with God. In every common day there are hundreds of little things for which to thank Him. It is to be feared that too often we forget to be thankful for good gifts, asked and unasked, which God so generously bestows upon us. For all these, the Christian believes, come from Him; it is therefore as delightful as it is right to bless the Giver for His gifts.

Yet not even thanksgiving is the highest form of prayer. Greater than the gifts is the Giver; and therefore the highest act possible for a human being is adoration of God; which means not only thanking Him for what He gives, but praising Him for what He is; for His goodness, His love, His splendour, His beauty. Here we realise the truth that Christianity is not, as some would persuade us, a sad and gloomy religion, but the most cheerful of all ways of life. The true Christian is the happiest of men, because he is always praising God. This is the heart of religion; this is the true Christian attitude towards God.

But none of these fine modes of prayer are complete so long as they exist merely in the individual life. I referred above to the dullness which so many of us find in church services. Is not the reason for this to be discovered, not so much in the forms of the service or the faults of the minister, but in the poverty of that which we ourselves too often bring? What is it which makes some services so alive and keen? It is not that the church in which they are offered is specially beautiful, or the preacher more than usually eloquent, or the ritual and appointments more than commonly fine. No: it is because each member of the congregation, or most of them, are really trying to praise God from their hearts, and thus bringing the best of which they are capable into the united worship. So they help those around them also to lift up their minds and hearts to God. This is what makes a service live.

Prayer at All Times

I have now tried to enumerate, with very little comment, the chief kinds of Christian prayer. But it will no doubt have occurred to many of you that all these, necessary as they are, are not things in themselves; they are means to an end greater than any of them. It is right that we should ask God for the things which we and our friends need, for mind and body. It is inevitable that serious men and women should be penitent for the things in them which they know to be contrary to God's will for them. It is necessary that we should spend quiet times thinking about God, and listening to Him, and that we should be constant in thanking and adoring Him. But no special occasions or times of prayer are complete in themselves. We must try to live always as in the Presence of God, ready at any moment to turn our thoughts and activities into prayer; at work, at play, in the office, in the train or 'bus, at home or abroad. Everywhere and always we shall be mindful of the duty and happiness of prayer, penitence, thanksgiving and praise.

Finally: is all this too hard for the ordinary man and woman? Is prayer, in the sense in which I have described it, something which concerns only a few pious persons, but is out of the reach of most of us? Not, I think, if we are taking our Christianity seriously; not if we regard getting to know and love God as the exercise of the noblest faculty of mankind. It needs effort and perseverance? Yes, beyond doubt. I think it was the famous Huxley who said that it did not take much of a man to be a Christian, but it took all there was of him. And a year or two back Mr. Stanley Baldwin said in a public speech that the churches were more likely to fail in the long run if they demanded too little of human nature than if they demanded too much. Both those sayings are true to real human nature, which will respond much more naturally to a difficult religion than to an easy one. To be a true Christian may make big demands on us; but it is very much the best thing that any intelligent man or woman can be.

The Listener's Music

Composers' Commonsense—I

IN an article on Mendelssohn's Violin Concerto a writer in a musical journal recently said:

There is the serious, and slightly sad, first movement, and the calm and particularly beautiful slow movement. . . . But as soon as we come to the quick last movement, things are different. It is as though the happiness of his surroundings combined with the natural cheerfulness of the man himself, had the last word.

And a well known broadcaster recently noted (apparently with surprise) that a certain Mozart work had a grave movement sandwiched between two gay ones. It would not be hard to quote many other instances of a tendency to regard as the result of a composer's mood what is merely a matter of practical commonsense.

The fact is a reminder of the large part this prosaic gift plays in composition. The conventional plan of a symphony or sonata—first movement, serious and animated; second, slow; third, playful (the order of the slow movement and *Scherzo* is not invariable, for reasons that will appear later), fourth quick and cheerful—has nothing to do with a composer's feelings: it is settled, in the most practical manner, by the listener's power of attention. An audience is assumed to be fresh and alert at the beginning, so the opening movement is usually the longest, and contains the bulk of the hard thinking and serious feeling. It is almost invariably quick as well, because it has to be long: a long slow movement might arrest the hearer's attention at the start, but it could hardly retain it. Moreover, a slow movement is restricted as to mood: it may be elegiac or lyrical (the Funeral Marches in the 'Eroica' and in Elgar's Second Symphony are among the comparatively few successful examples of the elegiac), but it can hardly be anything else; and the obvious place for it is later, where it can provide a foil to the mental and physical energy of the first movement and the high spirits of the *Scherzo*, and in its turn enable the bustling *Finale* to come as relief and contrast. The position of the slow movement and *Scherzo* as Nos. 2 and 3 is thus settled. The *Finale* is lively and straightforward because the hearer is reasonably assumed to be less fresh and alert than he was a half hour or so before. Modern composers are sometimes less considerate than the early symphonists, with the result that *Finales* now tend to be as long and almost as serious as first movements. One can understand a composer's reluctance to degenerate from the poet of the first movement to the agreeable rattle of a Haydnesque *Finale*; but he might with advantage remember that it is possible to relax without stooping.

The exceptions to the conventional plan are worth considering. In seven of Beethoven's symphonies the slow movement comes second; why not in the other two (Nos. 8 and 9)?*

No. 8 is in a class by itself: it was designedly on the small side (Beethoven called it 'a little one'—only the prentice-work No. 1 is shorter) and its prevailing lightness of mood led Sir George Grove to say that it 'might with propriety be called the Humorous Symphony'. The *Finale*, though labelled simply *Allegro vivace*, is actually one of the finest of Beethoven's *Scherzos*. Having put the real *Scherzo* at the end, Beethoven necessarily had to do something unusual in regard to the middle movements. The small scale of the work seems to have suggested a return to earlier methods, so the movements are unusually short—an *Allegretto scherzando* and a Minuet, and they had to be in that order, for obvious reasons.

As to the Ninth Symphony: how many listeners realise the risk Beethoven took in following the long first movement in D minor with an even longer *Scherzo* in the same key? The fact that we are not conscious of tonal monotony is a triumphant vindication of one of the boldest strokes in all music. Yet we shall see that the order could hardly be otherwise. After the immense and serious first movement, with its emphasis on the D minor tonality, the natural successor would be the *Adagio*, with its change from quick to slow, loud to soft, and major to minor. But look ahead! What would have been the point of the terrific discord with which the *Finale* opens, had it merely followed the clamour of the *Scherzo*, instead of smashing into the calm set up by the *Adagio*? The *Scherzo* simply had to come second, in order to leave the way clear for the drama of the prologue to the *Finale*. Mere practical commonsense again. (But had the genius of Beethoven not been at its height in the *Scherzo*, what a 'flop' there might have been! The triumphant success with which we are gripped by two of the longest movements ever written, both loud, quick, and in the same key, is one of the miracles of music.)

The two extracts from current journalism that I quoted above are typical of the sort of thing that has been written (to the mis-

leading of the lay mind) for generations. The wonder is that it should still be perpetrated, sometimes by writers of standing. As recently as ten years ago, a well-known German critic wrote, in a note on the Fifth Symphony:

Fate does not knock; it strikes a man to the ground. Whenever the panting victim struggles to arise (bars 33-34) he is ruthlessly thrown down again (bars 44-56). The second entry, with its downward fifths, outdoes the first. Thus does Fate grind its heel on man's neck and press it hard on the ground (the long-held low B flat) while man begs for mercy . . .

Yet the passages into which this commentator reads such significance merely exemplify the logical methods by which all normal symphonic movements are built up. If they *must* be pictorialised, there is hardly a limit to the meanings we could read into them. The one quoted is due, of course, to the 'Fate knocking at the door' idea, which was not in Beethoven's mind when he wrote the work. (His remark, 'Thus Fate knocks at the door', was made years later.) The famous four-note figure is reputed to have originated in the call of the yellow-hammer, but Beethoven had used its rhythm (in which its power chiefly lies) long before he wrote the symphony; and Haydn had led the way long before in an early piano sonata.

Again, not many years ago the programme book of a London recital of Beethoven's violoncello Sonatas contained the following note:

In the first movement of the second sonata the drama has begun. An ardent passion consumes him . . . But in the second movement he so far recovers himself as to be able to joke with us.

But, as Beethoven was in his twenty-sixth year when he wrote this sonata, he was old enough to realise the importance of contrast. And even the 'passion' of the first movement may pretty confidently be ascribed to the prosaic fact that this sonata was the second of a pair produced as one *opus*; the first being light throughout, Beethoven began the second in a very different vein. This contrasting of works as well as of movements was a frequent and natural custom. Thus, it is a familiar comment on the Beethoven symphonies that, after the first two, they form a sort of switchback, Nos. 3, 5, 7 and 9 standing out by reason of their greater scope and emotional power. We see the same method of alternation in Brahms' four symphonies. Nos. 1 and 2 were produced within a short period, and are vividly contrasted. Nos. 3 and 4 came nearly together six years later, and again are widely different in character. Sentimentalists regard this alternation as evidence of Brahms' 'soul state' at those periods; yet mere practical commonsense, combined with a desire for change, would lead a composer to avoid the risk of overworking one vein in two successive creations.

I cannot refrain from quoting further from the programme note on the cello sonatas:

The third sonata was written in the same year in which he finished the tragic Fifth Symphony. Yet there is no hint of tragedy in this sonata. Only serenity, and great and infinite tenderness. The lion caresses . . . Beethoven is happy.

But there is not the slightest hint of tragedy in the *Finale* of the Fifth Symphony: does this prove that Beethoven had a bad fit of the blues when writing the first movement, recovering in time to write a jolly *Finale*? In order to realise how little the composer's mood counts, readers have only to remember that the composition of a symphony occupies him for many months—sometimes years elapse between the conception and the finish. The fact is, of course, that the mood-structure of a long work almost inevitably makes a concession to the hearer by adopting something analogous to the 'happy ending' which has always been a convention with fiction writers—except those of Russia. (In this connection it is not without significance that the one symphony which ends in unrelieved gloom is by a Russian.)

In a further article I propose to show the part played by commonsense and practical necessity in many of the details of composition. Practical necessity implies limitation, and I cannot end this article better than by quoting the sentence with which Mr. Eric Blom opens his admirable book, *The Limitations of Music*:

The perfection of a piece of music depends not on the quality of the artist's thought alone, but no less on his ability to subordinate his invention to certain limitations, the more or less successful accommodation to which will determine, with almost automatic accuracy, the value of his work considered purely as a feat of artistry.

HARVEY GRACE

*I am not forgetting that No. 8 has no slow movement, its place being taken by an *Allegretto*. But the mood of this is pensive, and the tonality minor; and as Beethoven subsequently expressed anxiety that it should not be played too fast—even suggesting *Andante quasi Allegretto* as a more suitable indication—it is less of an exception than it appears to be.

English Music—III

From Madrigal to Choral Festival

By Dr. THOMAS ARMSTRONG

I SAID last week that the early growth of music centred largely round the cathedral and monastery, where there was shelter from the coarser barbarities of mediæval life, and some leisure for culture and art. But there was always secular music, too; for people cannot be stopped from singing, even by discomfort, as the soldiers in France knew: and music wells up naturally like a spring in unexpected places. We know of much early secular song, such as the famous epics of France and Scandinavia, which were sung by bards and handed down orally: later there were love songs of the Troubadours, as they went from court to court: and there were also the folk songs and dances of ordinary people. As the ability to write harmonious part-music grew, it naturally spread from church music to secular music, and the ultimate result of the alliance between part-music, rhythmic melody, and lively verse, was the madrigal.

The Italians were the first to develop this form. Our men took to it about 1540 and quickly mastered its technique and possibilities. Between 1540 and 1620 hundreds of madrigals were written by such composers as Byrd, Weelkes, Wilbye, Morley, Tomkins and Gibbons: and as they began to use the form more and more as a means of intimate personal expression its technique and style began to widen. It might be written in three parts, or in as many as eight: it might be sad, like some of Wilbye's, vivacious like Weelkes', or philosophic like Gibbons'. Taken as a whole, these works are delightful to listen to, and still more so to sing: and they form a very important contribution to European music. The most famous single collection of English madrigals is 'The Triumphs of Oriana', published in 1601 in honour of Queen Elizabeth, and including some fine examples; and it is interesting to find that out of twenty-six composers who wrote for this collection of secular music, no fewer than nineteen were connected in one way or another with the cathedrals.

After 1620 the madrigal began to give way to new forms of music; Opera became popular in Europe; and in England this same taste produced the Masque, a kind of Pageant, like a modern revue, lavishly produced, with little genuine dramatic interest, but with much dancing and music. Few masques had the literary interest of Milton's 'Comus', which was produced at Ludlow in 1634, with music by Henry Lawes. Generally speaking, their action was rather futile: but scattered about the scores there are all kinds of extremely attractive music, which ought not to remain buried, as it often does, in libraries and museums. It was this kind of performance that passed as opera in Purcell's day. But Purcell himself had very great dramatic talent. His only real opera 'Dido and Æneas' stands as one of the great landmarks of opera in Europe, and shows that he might have established English opera once for all if he had not been obliged to cater for the fashionable taste of his day, with works that have lost, in spite of their brilliant music, what little dramatic interest they once had. As it was, after Purcell's death English opera languished. Handel was brought over to supply Italian opera at Drury Lane, and even he was bankrupted in a few weeks when popular fancy was caught by 'The Beggar's Opera' in 1728. This fact is significant, for the subsequent history of English opera has proved to be almost entirely concerned with the characteristic ballad opera, like 'Love in a Village', the Gilbert-Sullivan series, and German's 'Merrie England'. Some of our composers have attempted bigger things, like Arne, with his 'Artaxerxes', which was so much admired by Haydn. But the Englishman does not seem as a rule to take easily to serious opera, an art-form which involves considerable convention, and throws some strain upon

our sense of humour, which is often insular and illogical, and can be temporarily suspended during the performance of things we naturally like, such as oratorio. In recent years new hopes have been raised by the success of Ethel Smyth's 'The Boat-swain's Mate' and Vaughan Williams' 'Hugh the Drover', both of them based upon English stories treated in a native style. And you will remember also Boughton's 'The Immortal Hour'.

A small vocal form that became popular in the eighteenth century was the glee, a short song for unaccompanied voices, often male-voices. The typical glee, by Paxton, or Spofforth, or Mornington, has little contrapuntal interest, and limited expressive power; but within its limits it may be a clean straightforward piece of honest music. Far more important, musically, is its modern descendant, the part-song. Popular demand for these works became very considerable during the last century, and with this incentive composers produced some highly

developed small choral works. R. L. Pearsall originated the modern part-song about 1830, in an interesting attempt to revive the glories of the English madrigal: he wrote some fine part-songs: as also did G. A. Macfarren, whose 'The Sands of Dee' is deservedly remembered and still sung: Parry, Stanford and Charles Wood developed and subtilised the form, making it richer by associating it with some of the finest lyrics in our language. And since their time the Competition Festival movement has so much developed the technique of the smaller choral society, that modern composers like Elgar, Bantock,



Canterbury Catch Club (1805)

British Museum

Vaughan Williams, Howells and Armstrong Gibbs have been stimulated to lavish their whole imagination upon the part-song. The result is a most flexible expression and colourful medium.

In this country we have always been fond of singing. Choral Festivals, like those of St. Cecilia's Day, The Three Choirs, Leeds, Birmingham, Norwich, Sheffield, and the Western Counties Association—these have taken a big place in our musical life. Since Purcell wrote his 'Te Deum in D' for a St. Cecilia's Day Festival, such occasions have produced a regular crop of English choral works. Some of these have been purely academic and of little real interest: but this has not always been the case, and since Parry's 'Prometheus', which appeared at Gloucester in 1880, there has been a steady stream of good choral music. 'Blest pair of Sirens' and Charles Wood's fine 'Dirge for Two Veterans' lead to Elgar's 'Dream of Gerontius', 'The Apostles' and 'The Kingdom'—works in which the modern orchestral style was first associated with English choral music. Thence we pass to Vaughan Williams' 'Sea Symphony', 'Towards the unknown region', 'Sancta Civitas' and 'Benedicite', a work which caused great enthusiasm among a critical audience at the international concerts of contemporary music. There are also Holst's 'Hymn of Jesus' and 'Choral Symphony', and, last, the new oratorio that has created such wide interest in America, on the Continent, and at home—William Walton's 'Belshazzar'.

This is a notable list: and as regards vocal music as a whole the English musician should feel no inferiority. It is our special talent: since the days of the madrigal, the mating of words and music has been an art in which our composers excelled. Madrigal, motet, anthem, part-song, cantata, oratorio, and opera, too, if we include 'Dido and Æneas'—in each of these branches we can show works that stand high among the classics of music. This realisation should serve as an encouragement alike to composers and to those invaluable enthusiasts who work for music in choral societies, choirs and other 'places where they sing'.

*The Civil Service—II**What Does the Civil Service Do?*

By A CIVIL SERVANT

THERE are in Great Britain at present about 320,000 Civil Servants, excluding the industrial employees of the Royal Dockyards, Ordnance Factories, Post Office, etc. This 320,000 is just over 1 per cent. of the population between the ages of fifteen and sixty-five. What are they all doing? That is the question I have to try to answer. And here may I explain that so far as anything I may say is opinion and not simple fact, those opinions are personal opinions, and no one but myself is responsible for them?

There is just one general point which I should like to make at the start. The Civil Servant is engaged in one way or another in carrying out the work of government; and government—public administration—is essentially a one-sided affair. That is why it can never be like business. Business is based on contract between one man and another: government is based on authority. You don't contract with the Government to pay income-tax at such and such a rate, or to admit the factory inspector to your works, or to adopt the requirements which he puts before you, or to stamp your employees' insurance cards. You have just got to do these things. And it is of the essence of democratic government that this difference between authority and contract shall be minimised: that every effort shall be made to use authority so as to carry with it the maximum amount of consent and agreement on the part of the public.

Let me now try to give you a sketch plan of the Civil Service as it is—of these 320,000 people. It must be quite rough, but at any rate it will be drawn to scale. I am going to begin by eliminating nearly two-thirds of the Civil Service. That is the staff of the Post Office: nearly 200,000 people—postmen, sorters, telephonists and telegraphists, messenger boys, clerks, and so forth. They are, of course, all Civil Servants: but whatever else that great organisation is doing—and it is one of the largest organisations in the world—it is not engaged in the government of the country. It is really conducting a commercial business of the public utility type. When the staff of any ordinary Government Department increases, the public, very naturally, is critical: but when the staff of the Post Office grows the public is, or should be, glad, because it means normally that trade and industry are improving, and that the Post Office is doing more business and earning more revenue.

Civil Servants Not Only in Whitehall

Then there remain about 125,000 Civil Servants. They are not all in Whitehall, as you are sometimes led to suppose. The 'horde of Whitehall bureaucrats' of which we occasionally hear, may express a constitutional truth—indeed I think it does—but it is certainly not an exact description. I should doubt if within half a mile of Downing Street you would find even the odd 25,000. They are scattered all over the country, doing all sorts of different things.

Here is the picture. Nearly one-third of them are in the two great Revenue Services: the Inland Revenue and the Customs and Excise. Between them they assess and collect nearly the whole of the national revenue, which nowadays is, I think, about a fifth of the national income. Over one-fifth of them are working under the Ministry of Labour, mainly engaged in running the Labour Exchanges and the Unemployed Insurance system. So far, in these three departments alone, we have accounted for nearly half of the 125,000; the other half I must set out in rather more detail:

The Defence Departments	17 per cent.
The Home Department, Law and Justice ..	8 per cent.
Industry, Trade and Agriculture	8 per cent.
Health (which covers many fields of local government, including Housing)	6 per cent.
Education, including Museums and Galleries ..	3 per cent.
Imperial and Foreign (that is, the Diplomatic and Consular Services, and the offices of State which control them)	2 per cent.
The Common Services (that is, the Departments which serve the Departments, like the Office of Works and Stationery Office)	3 per cent.
Central Government and Finance	2 per cent.
The Ministry of Pensions (a temporary Department, resulting from the War, which has steadily decreased, and in time will disappear)	3 per cent.

This, then, is a rough sketch plan of the field of Government in which the modern Civil Service works. I must mention here the principle of Ministerial responsibility. For everything that the Civil Servant does, or fails to do, some Minister of the Crown is (with certain exceptions) responsible. Constitutionally he doesn't exist. That is why, when he writes a letter, he always begins by saying, 'I am directed by the Secretary of State' or the 'Minister of Labour' or whoever it may be. Very likely the Secretary of State or Minister of Labour has never seen the letter and knows nothing of the matter at issue. On the same principle, the letter must be one which the Minister, if he did see it, would approve. It is the Minister who is responsible.

Two Functions of the Service

Next let me mention two pictures of the Civil Service which are sometimes presented to the public, perhaps not so often now as they were a few years ago. In one it is represented as a group of industrious bureaucrats, greedy of power—in fact, governing the country, and always seeking to govern it more, and to deprive it of its liberties. In the other it takes the form of an ever-growing horde of wastrels—rather idle wastrels—occupying themselves in unnecessary and even undesirable avocations and consuming the national substance. Now, although those two pictures are (shall we say?) somewhat exaggerated, and anyhow not wholly consistent with each other, they do when put together bring out one fact, and that is why I have mentioned them. They bring out the fact that the Civil Service has more than one function. At one end it is taking a part in shaping the policies by which the country is governed: at the other end it is simply occupied in the executive task of carrying out the law of the land, in the various fields which I have just mentioned. It is the latter that I shall mainly deal with here.

Now in a Government Department, as in any other large organisation, the number of people who are engaged in shaping policy, in deciding questions of policy, and in the general direction of the work of the Department, is very small; the great majority are engaged in the actual carrying out of the law in the particular case, and in the various operations which are necessary to that end. The Customs officer who searches your suitcase at Dover is in fact applying to you the provisions of one or more of the Customs Acts; but that is not how you would describe it. What you would say is that he is searching your luggage for something which you have told him is not there. And he, from his point of view, has not got to consider what the law on the subject is, still less to shape it or to advise on it; he has simply got instructions which it is his duty to carry out. Quite a large proportion of our 125,000 Government officials are engaged in even simpler duties—there are clerks, who enter up records or make or check calculations, typists who take our letters, messengers who distribute our papers and look after our visitors, and the ladies who keep our offices clean.

Take, again, the work at an Employment Exchange. The greater part of it, numerically, consists of quite ordinary operations—filling up enquiry forms, recording particulars, checking dates, verifying facts, making payments and compiling accounts. And even the more difficult of these mass operations are in some cases carried out on an enormous scale. Consider, for a moment, the millions of Income Tax Returns which have to be examined and assessed, or the thousands of schools (nearly 30,000), which the officials of the Education Departments have to consider individually in connection with the education grants from national funds; or the hundreds of thousands of separate applications for patents which have to be examined every year by the highly expert staff of the Patent Office, in order to decide, case by case, whether the idea is patentable or not.

Methods of Work

Let us turn for a moment to some of the methods by which the executive work of government is carried on—the tools, as it were, of our trade.

First, there is inspection—often criticised, and, I am afraid, not always popular. But it is a means of securing that the law is obeyed, that standards duly laid down are observed, while still leaving with the citizen his undiminished responsibility for obeying them. It is more than that. It is a protection to the vast majority, who wish to obey the law, against any small minority

who may try to steal some advantage over them by evading it. The inspector is tending to become more the guide, adviser, and teacher, and less of the policeman. The use of this instrument of government is changing. The first factory inspectors, a hundred years ago, were given the powers of magistrates: they were in a very real sense judges as well as prosecutors. Now we read on high authority, 'the inspectors have come to be the advisers of industry'.

But we must leave the inspectors, and turn to another instrument of government—approval or sanction. This is a very old instrument indeed. Government Departments approve or sanction all sorts of things, from the raising of loans by Local Authorities, to amendments of their rules by Friendly Societies, or permission to an alien to land in this country or to become a British subject. The point about this important instrument of sanction is that, though it is used for a great variety of purposes, its use is governed by one vital condition: it must never be used either arbitrarily or dishonestly. That, I assure you, is one of the things which the Civil Servant learns in his earliest years, and never forgets. We do make mistakes, but they are made in good faith. One other point. The obligation to obtain the approval or sanction or licence of a Government Department is necessarily a restraint on individual liberty. The obligation must be justified on its merits; on some wider community interest. It is imposed for different purposes in different cases—for revenue purposes, perhaps, or for public safety, or for the defence of the ignorant and helpless. But however that may be, the obligation is based finally on the authority of Parliament, with which the last word rests. In the use of this instrument of government, at least as much as in any other, government officials are simply, to the best of their ability, carrying into effect the law and the intention of Parliament.

Legislative and Judicial Powers

There are two other implements of administration which must be mentioned, since they are of great public interest. I mean the so-called legislative and judicial powers exercised by some Government Departments—always under authority given by Parliament itself. The former takes the form of regulations and orders, which have the force of law, and has been attacked on the ground that it is an invasion by the executive government of the functions of Parliament. The other takes that of judicial or quasi-judicial decisions by a department, and has been criticised as an invasion by the executive government of the functions of the Courts of Justice. Neither power is of modern invention; but the use of both has grown at least proportionately to the growth of government itself.

The subject involves some of the most fundamental issues of modern government, but it is far too large to permit more than the briefest reference here. Sir Ernest Simon referred last week to what is commonly known as the Donoughmore Committee which examined the subject and made its report last year. He told you what their conclusions were. Perhaps I may add one quotation: 'In truth the development of the practice is inevitable. It is a natural reflection of changes in our ideas of government which have resulted from changes in political, social and economic ideas, and of changes in the circumstances of our lives which have resulted from scientific discoveries'. Let me take an imaginary case to illustrate this. At present there is no law or regulation which prevents the owner of land abutting on a road from erecting a high wall or fence in such a way as to create a 'blind corner'. The time may come when, in the interests of road users, public opinion requires that some legal restriction shall be imposed. If that time comes, should Parliament try to define in the Act the precise conditions which would render such a wall or fence illegal, or should the definition be left to departmental regulations, or even to the highway authority itself? And, in the particular case, should the order of prohibition, if one is needed, be a decision of a court of law, or of an administrative authority?

Letters, Language and Red Tape

Let me turn for a moment to something not quite so serious—the smaller tools of our trade—correspondence, for instance. Why don't we answer letters by return of post? Why do we use that curious long-winded official jargon? Why have we a passion for Forms—mostly buff, and nearly always repulsive? All these things are not just traditional habits or fancies: there are reasons for them, and those reasons lie deep in the nature of government itself. A Government Department must be consistent. It must not only be consistent with itself—its own past actions—but its policy in one particular must be consistent with its policy in all other particulars. It cannot do one thing one day and a different thing in precisely the same circumstances next day. Everything that is done in the name of a Minister must be capable of defence if challenged; and inconsistency, or contradictory policies, are of all things the least capable of defence—one of them *must* be wrong. That is why, when we write an official letter of any importance, we have so often to look up past decisions, to consult colleagues whose own work may be affected by what we say, to

seek advice or information upon some particular point. One of the first things which the Civil Servant in a responsible position has to learn is to acquire a sensitiveness to the reactions of what he may do upon the activities of other branches of his department or other departments, and to appreciate the bearing of what he does today upon what he or his predecessor did yesterday, or he or his successor may want to do tomorrow. And the price of consistency is a certain deliberateness in action.

Then as to official language. It is charged with being long-winded, pompous and obscure. So, sometimes, it is. But those of you who read the British Note of last December on the American Debt will agree that at its best 'official English' is a magnificent instrument of clear and precise expression. I am not, of course, speaking of the language of Acts of Parliament or of departmental regulations. These are legal documents and have to be expressed in legal language—and of legal language let us say, as the Scotsman said of whiskey, that none is bad, but some is better than other. But the official language of our letters and reports is the product of the two forces, dignity and caution. I feel sure that a bright snappy reply from a Government Department would be misunderstood. Moreover, we are writing in the name of a Minister of the Crown; however bright and snappy we may feel, our language must be that which is deemed befitting in him. The words are his words.

On the other hand, we must not say more than we mean, and it is better if anything to say a little less; for at any rate we can say the rest next time, whereas we can never unsay anything once said. And so we learn to round out our sentences with reservations and qualifications, in order to make quite sure that we have not said a word more than we can stand by. I must pass by those other things with which we are, for good or ill, associated—our love of forms, our greed for records, our worship of red-tape. They are all capable of explanation, and, let me hasten to add, are equally capable of abuse.

From Government Buildings to Hikers' Maps

The picture that I have tried to draw is sketchy and terribly incomplete. I have said nothing yet about the scientific and technical side of executive government—a side which, as you may imagine, is of great and increasing importance. The modern Civil Service includes men of nearly every scientific profession. Doctors watch your health and food; engineers, the development and improvement of your roads; architects and surveyors, the problems of your housing and the planning of your towns. Biologists are working to assist your agriculture and stock-farming; physicists and chemists, to aid industry in some of its fundamental technical problems. Actuaries guide the finances of the great national insurance schemes, and accountants audit the accounts of your local authorities. There are altogether over 10,000 members of the professions in the Civil Service.

Nor again have I said anything of the Departments which serve the Departments—most of which serve the public directly as well. The Office of Works provides and maintains all Government buildings; it also keeps up the Royal Parks in London and those precious treasures of the past which we oddly describe as 'Ancient Monuments'. The Ordnance Survey Department's main purpose is the survey of the land of this densely populated, highly developed island; but it also provides the hiker with tourist maps which are, I believe, the best of their kind in the world.

Three Main Forms of Activity

But I will end by suggesting one general conclusion. In surveying the field in which the Civil Service works, we can distinguish three main forms of government activity; that which is purely restrictive, or negative government—the oldest form of government; that which is compulsory but positive, like a large part of the Social Services; and that which is optional and positive, imposing no duties on the subject and creating no offences. Of this form, such services as those of the Overseas Trade Department, the Public Trustee Office, the Department of Scientific and Industrial Research, and parts of the work of many other Departments are typical.

These distinctions are important. They help, I think, to throw light on the development of the modern Civil Service and to indicate where its problems lie. And clearly what I said at the beginning as to the work of the Civil Service resting on authority was not quite the whole story. Those optional services involve no exercise of authority over the subject. Government in the modern state is not wholly authoritarian. And this fact is, I suggest, of some significance in connection with that question discussed by Sir Ernest Simon and Mr. Crabtree last week—the question of those new bodies like the Central Electricity Board which are not Departments of State and are not directly subject, through a Minister, to the control of Parliament. But it is still true, as has been well said, that our problem in the highly complex system of modern life is to reconcile tolerable order with indispensable liberty. The Civil Service, acting under Ministerial direction, and thereby responsible to Parliament, is the instrument of that purpose.

*Rural Britain Today and Tomorrow—II**Wresting a Living from the North Lands*

By Professor J. A. SCOTT WATSON

WHEN I awoke on the morning of August 15, at Windermere, the sun was shining in at my bedroom window; but when I looked out there were unmistakable rain clouds on the top of Conistone Old Man, and the maid who gave me breakfast said it would rain; but rain was needed; for even here, in the wettest part of England, the water supplies were running short and pastures were getting bare.

It did rain, in fact, with a couple of very short fine spells, until I got to Keswick, and low clouds hid a good deal that I wanted to see: I stopped, however, once in a while, particularly to have a look at the interesting breed of sheep in these parts, the Herdwick. It is so unlike any of our other mountain breeds that it is supposed to be foreign—to have been started with some sheep saved from a wreck, either of one of the Armada ships or of a Norwegian vessel. But neither story will wash, for you cannot match the Herdwick either in Norway or Spain. The breed is small, like all other mountain sheep. The lambs are born dark grey in colour and the fleece gets gradually whiter with age. The wool is coarse and kempy, but the mutton competes for quality with Welsh or Scotch mountain or Southdown—that is to say, it is the best. It is commonly said that this is our hardiest breed, not excepting the Scotch Blackface or the Swaledale, though such comparisons in fact are difficult to make. But it really is a puzzle how the animals live, for some of the higher fells seem to carry a pasture that is about ninety per cent. stones and about ten per cent. vegetables—chiefly heather and juniper bushes.

The Herdwick, like other mountain sheep, leads a pretty adventurous life, in spite of the care of the very skilful shepherd and his really marvellous dogs. On the higher ground in winter, drifting snow is the biggest risk; for the mountain sheep, with many of the instincts of the wild animal still left to it, does not have the sense to avoid those places where the drifts will gather. How long do you think a sheep might live buried in snow? Several days, and a week, are common; and if my memory serves me, it is a Herdwick ewe that holds the British record of something over six weeks: this lady recovered from her adventure. Another rather interesting point about this; how does a sheepdog find the spots where sheep are buried? A good dog will usually start scraping the snow in the right places, and it is difficult to think that the scent can be very good through five or six feet of drift.

Marketing in North and South

I went down from Keswick to Newton Regny, near Penrith, where is one of the oldest of our County Farm Institutes, with a long and fine record in the training of farmers and farmers' wives. The farm is typical of Cumberland; a herd of great deep-bodied shorthorn cows; a lot of fine large white pigs; good poultry; well farmed arable with bulky crops of roots; and beautiful grass. I wanted next to visit the Wigton district and see some more herds of those Dairy Shorthorn cows; but it was market day in Wigton, and a special sale of store sheep seemed to have drawn all the farmers of the neighbourhood. So I, too, stayed to see the sale, which was a cheerful enough affair with a brisk and rising trade. The scene was just the typical one; the ringside crowded with three or four hundred farmers; an auctioneer, with a big personality and a voice like a great bell, stood in the middle, up to his knees in sheep—cheery, overflowing with energy, dominating the whole place. It is the fashion, these days, to deride all our methods of marketing in this country. Some of them are undoubtedly bad. But these big stock sales, which are typical of the north, are quite remarkably well run; indeed, it always seems to me that it would be hard indeed to improve on them. What do we want of a system of marketing? Well, the buyer wants to be able to find, quickly and easily, exactly the thing that he needs. He wants also to be assured of a square deal. And he wants his purchases to be delivered cheaply, quickly, and with a minimum of damage. The seller, on his part, too, wants a square deal; he likes to know that he can expect his cheque on the nail; and he wants to pay no more than reasonable charges to the organisation that carries through the business. There is another test that you may apply, namely, the number of dealers that make a living by turning over the goods. I don't mean to suggest that dealers, as a class, are parasites. Many of them are necessary—or at least they are often the best means of transferring stock from one district to another. But it is a certain sign that marketing is inefficient if there are too many dealers in proportion to producers.

If you go to any of these big northern stock markets—Carlisle, Hawick, St. Boswell's, Lanark or Perth—and apply any or all of these tests, I believe you will be driven to the conclusion that their

organisation is about as perfect as that of most human institutions. Of course, it is easy to find, especially in the south, thoroughly bad, inefficient, ill-organised auctions. You get a small show of stock; very few buyers, most of them dealers on the lookout for possible bargains; perhaps a good deal of private understanding among them; the seller himself bidding for his own goods; the auctioneer accepting imaginary bids; two or three auctioneers perhaps competing against each other for the few customers, and the whole business conducted in a confused rabble of scared animals, shouting drovers and walloping sticks. It may be that some fundamental change is necessary in our system of stock marketing; I can't see it. If only we could bring the organisation of all our markets up to the level of our best it would be, I believe, a sufficient reform. The chief reform that is necessary, I believe, in livestock marketing, is to abolish or amalgamate the smaller markets. With modern transport these are no longer necessary; and if you can get a big auction you automatically, and at once, get rid of most of your abuses. You may expect to get a firm of standing and substance with a reputation to maintain to run a big show. You may expect to get enough buyers to make impossible the common dodges and malpractices. I don't know why the south should have lagged behind the north in this matter; but on the whole it is so—though there are some good markets in the south and some bad ones in the north.

I passed on through fertile country, on a new Red Sandstone bottom, by Carlisle and Longtown to Annan. I stopped at Solway Moss, a wide stretch of wet peat land covered with heather, then in perfect full bloom. Here was the scene of a shameful defeat of a great army of my countrymen by a handful of Sassanachs; and here too, on November 17, 1768, occurred a peculiar kind of disaster of which I have come across only two or three other records. On that night Solway Moss 'burst'. A spell of heavy rain had turned the mass of peat into a thick black liquid, held together by its skin of heathery turf but swollen far above its proper level. Some careless peat digging had weakened this skin and, in the late evening, it gave way and the thick inky tide flowed slowly down the valley, covering some four hundred acres of farm land and surrounding several homesteads. No human life was lost, but many cattle and other stock were drowned. One old cow was rescued after standing for sixty hours up to her neck in the mire.

Hard Work and Little Leisure

All the way from the Border to Ayr are most attractive-looking farms, mostly small, with whitewashed homesteads and picturesque Ayrshire cows browsing on sweet green grass. Running along on a fine sunny morning in harvest after a shower of rain one was inclined to romanticise the whole picture, to think of the farm folk as living a care-free idyllic existence, pleasantly occupied looking at their cows and their crops, comfortable and prosperous. The plain truth is, however, that life on these little dairy farms is a pretty grim business—especially I think, for the women. For here the women still do most of the milking, the cheese-making when this is done, and often many of the less savoury jobs of the cowshed as well. I don't know exactly what it is like to get up at four o'clock every morning in the year, clean the cowshed and milk ten cows before breakfast. I have never tried. But I should think that the romance of the thing begins to wear a little thin.

And yet this south-west of Scotland breeds a race of people who stick very faithfully to the land. So much so, indeed, that there are nothing like enough farms, locally, to go round. Hence there is a continual export of farmers. You will find Ayrshire men spreading up the west coast of Scotland to Kintyre and Islay. There is a steady flow to the east of Scotland, from Angus to Berwickshire; an old farmer in Fife told me the following week that half the Fifeshire farms that had changed hands since the War had been taken by men from the West Country. There is an immense colony of them in Essex and Hertfordshire, the emigration having begun during the depression of the early 'nineties and having gone on ever since.

The great majority of these people make successes of their new farms. Up to a point there is no mystery in this, for they work very hard and live very bare. The old Essex farmer of the 'nineties liked his bit of shooting and his glass of port, was a kindly master, lived well, farmed well and went broke with wheat at twenty-five shillings a quarter. Then these people came south and took the derelict land for a song; worked like galley slaves themselves and employed little labour; put the land to grass and produced milk instead of wheat; lived in the kitchens of their big farm-houses, drove hard bargains with everybody—and prospered. Do you think it is a sad thought, or isn't it?—that qualities like these count for far more, in the making of a



In the Herdwick country—sheep grazing in the snow near Derwentwater, and (left) a Lakeland dalesman

Photographs: Abrahams, Keswick

successful farmer, than all our science and education; anyway I am afraid it is true. If I could trace for you the history of farming in districts like

gallon. It is true there were a few other oddments of produce from the farm—an occasional heifer or pig, a few eggs, a ton or two of potatoes. But then there was rent to pay, and a whole list of farm necessities to buy, and three workers to feed and clothe. It does not need saying that the thing could not be done. The fault was not with the creamery, for the cheddar cheese that they had been making was then worth 4½d. a pound, which leaves no margin even with milk at 3½d. a gallon. Indeed, the creamery manager was in despair of selling what cheese he had in stock, and was struggling, with a scratch lot of machinery, to produce that horrid sticky mess called sweetened condensed milk, instead of good honest cheddar. Well, my small-holder, a decent, hardworking, capable man was obviously on the road to ruin. He had been provided with a holding at some expense to the country; it would obviously have been a sad thing to see him broken. But the story would not have ended there. If butter and cheesemaking will not pay, then you get cut-throat competition in the liquid milk market, and all milk falls to an unprofitable price. And a bad price must mean that the farmer will try to cut his costs, and the risk is that the consumer will get a bad article at the bad price. Moreover, it is part of the novel philosophy of these marketing schemes that it does not pay the consumer, in the long run, to ruin the producer. I know that is a startling idea.

If then my small-holder, and thousands of others, are to be saved from bankruptcy, somebody must pay. And the idea of the scheme is that the burden should be shared between those producers who are more favourably situated and the great British public. And the criticisms of the scheme that I heard were, frankly, from these other producers; who thought they were being asked to carry more than a fair share of the burden. One can only hope that something will be done to meet their arguments, which seemed to me to be reasonable; because it will be a bad thing if the twenty-five per cent. who voted against the plan are left with a conviction that they have been unfairly treated.

I took my week's summer holiday in Kintyre—recreations (as *Who's Who* would say) golf and tasting cheeses. I learned the rudiments of the second of these games from Mr. Hunter, the county organiser. You will have perhaps gathered that I like cheese and rather fancy myself as a judge of the ripe article. But the real art is to be able to taste the green, new stuff and say how the vintage is going to mellow out, months hence; and this in fact is very difficult; it will take me years of close application, I can see, to master the business.

Where the Factory is at a Disadvantage

It is a very cheering thought to me that, in this business of cheese-making, a skilful farmer's wife, in her own little dairy,

this south-west of Scotland—of the enclosure of the moorlands, the liming and draining of the land, the growth of the skill and knowledge that has led up to the modern wild-white-clover pastures, and the slow, but steady, process of creating the wonderful breed of cows, it would make a brave tale; but I must pass on.

I spent a most profitable and enjoyable afternoon, a real busman's holiday, going round the new experimental farm of the West of Scotland College at Auchencruive, with a magnificent new Dairy School and first-rate equipment for the various kinds of agricultural research. The fine old mansion has found a new use as a girls' hostel; the old gardens are being used for horticultural training and experiment, and the great old lawn makes a fine playing field. If only all our great empty and decaying country houses could be converted to such excellent use!

Why a Marketing Scheme Was Necessary

Milk and cheese are the main products of all this district and naturally the new Scottish Milk Marketing Scheme was the main subject of interest. Dr. McCandlish, at Auchencruive, told me that farmers' opinion was swaying this way and that; but he thought—and he was justified by the event—that the scheme would go through with the necessary majority. Opinion, in fact, was pretty unanimous that some scheme was necessary, but the issue was whether this actual scheme was good enough—that is, just enough to all concerned. Let us take the first point—that something needed to be done. The following week I went to see a smallholder in Kintyre, farming his thirty-five acres and keeping thirteen goodish cows. He was selling his daily output—about twenty-eight gallons of milk—for 8s. the lot, or 3½d. a

can beat the most expert factory manager, with all his elaborate plant, to a frazzle. In fact, the factory man hasn't a dog's chance in the business, because he gets milk that is not absolutely fresh and he can't, on mass production lines, give his cheeses the sort of individual motherly care that is so necessary to develop the finer traits of their character.

I left the Campbells country with regret and was off and away by Tarbet and Loch Awe to Dalmally and then over Rannoch Moor and down Glencoe, and round by Kinlochleven and Appin to Fort William. This, of course, is all Blackface Sheep country, except where it is really too poor; and then it is deer forest. Grouse shooting is important, of course, but that does not seriously interfere with sheep farming. The same sort of management that keeps the heather pasture in good condition for sheep, also gives the birds the best food and probably enough cover—although in fact the shepherd and the keeper have been known to disagree on the question of how much heather is to be burnt. Regular burning, of course, is the way to keep the heather flourishing. For if you let it get too old it gets shrubby and tall, the sheep cannot travel in it, and when eventually it catches fire, as it will do sooner or later, the old stools do not shoot again and other and less desirable plants get their opportunity.

The Bracken Menace

I see there have been letters in the Press lately about the spread of bracken, and the disappearance of heather, on some of our south county heaths. In the Highlands this is an old problem, and is getting progressively worse. Not only is the bracken useless as food for beast or bird, but it hides sick sheep and dead sheep, making the shepherds' task far more difficult and helping the blowfly to breed. Why the bracken should be spreading is a mystery that no biologist has yet managed to clear up. Perhaps the long continued and comparatively heavy stocking with sheep, and the disappearance of cattle, has something to do with the case; at any rate, this is the only big change that has happened to the land in centuries. The cure is difficult to suggest. Cutting, at the right time of year, tends to stamp out the pest, but on land that is worth a shilling or two of rent and has a shepherd to one or two thousand acres, the labour is hard to come by and the profit far to seek. Spraying with sulphuric acid is successful, but a sprayer of any size is impossible to move over most of the land. Perhaps we shall come to raining down the acid from aeroplanes.

The sheep farmers were in a moderately cheerful mood, for both lambs and wool showed a rise on last year's values and were still tending upwards. These hill men had, in fact, a very bad year in 1932. The wool was below fourpence a pound, and it was taking a very fair lamb to fetch half a sovereign. But on the whole, few farmers have fared better, ever since the War, than

the mountain sheep master. Blackface wool, by the way, is one of the very few agricultural raw products that this country exports. In better times the United States has been a considerable buyer and now a good deal is going to Italy.

Roads Good and Bad

I gather that there is a good deal of controversy going on about the Highland roads, though I have not been able to follow it. The policy has recently been to concentrate an immense effort, and necessarily to spend an immense sum, upon the two main arteries, the one from Perth to Inverness and the other from Tyndrum over Rannoch Moor to Fort William, joining them by a cross way along the Caledonian Canal. Some people feel that the same money, spread over three times the mileage, would have done far more good, and I am inclined to agree. I have indeed bitter memories of riding over desolate Rannoch Moor on a bicycle, in pouring rain and with my back tyre at the stage when it was past mending. And I hope I was duly grateful to the modern General Wade, whatever his name may be, for his new and excellent highway, now nearly finished. But I am bound to say I thought the road quite extravagantly good, when one bears in mind the great stretches of hair-raising tracks that still remain. And was it really necessary to make a maximum gradient of one in twenty-five down Glencoe? I take off my hat to the modern General Wade as a road engineer, but I think he might have dealt a little more kindly with the natural ruggedness of the Glen. You get the feeling that the grand slopes and precipices have been made to look a trifle silly. But I suppose all these things must have been said already.

At Kinlochleven, that is at the head of Loch Leven, which is one of the most beautiful sea lochs in Scotland, are the new hydro-electric works of the British Aluminium Company—the one industrial enterprise of any size that has been successfully established in the Highlands. It might have been better done, I suppose. It has spoilt, somewhat, one tiny bit of the vast quantity of grand Highland scenery. But I think it would be churlish to complain. Here at any rate is bustling human life, of which the Highlands has too little. Water power seems the only remaining natural resource that can be developed in all this mountain land. Sheep are as thick as they can live; grouse and deer bring in a bit of money and a temporary stir in the season. The fishings are pretty fully fished. Only by multiplying crofts, and condemning their occupiers to an extremely primitive way of life, can the agricultural population be increased. Perhaps some people would rather have the Highlands empty—personally I would rather see more people living there and fewer in places like Motherwell and Wigan and London. And I would rather see people earning money by making aluminium for honest pots and pans than driving grouse for stout elderly gentlemen to shoot.



The new road through Glencoe

Photograph: J. Campbell Harper, Edinburgh: by courtesy of 'Country Life'

*Scientific Research and Social Needs—II**Science and Food*

By JULIAN HUXLEY

OBVIOUSLY, I cannot cover all the applications of science to the great food problem. So I shall take one or two threads and see where they lead. My story ought to have begun with a visit to the Abbé Mendel's garden in the monastery at Brno, in Czechoslovakia. But Mendel died before I was born, and even if I had been privileged to visit him and see his work, I could never have foreseen all that has grown out of it. So I shall begin with a modern application of his work in the School of Agriculture in Cambridge, where I called on Sir Rowland Biffen.

Mendelian Principles Applied to the Practical Ends—

The essence of Mendelism is that hereditary characters are determined by definite unit particles which are handed on from parent to offspring in the reproductive cells, and that, owing to the microscopic machinery of those cells, the hereditary units can be shuffled and re-dealt in new ways. This is quite contrary to the older ideas of heredity, which usually assumed that the characters of the parents were permanently blended in the offspring, more or less as coloured ink blends with water. Mendelism showed that there was no blending, but that, by means of properly-planned crosses, the various characters of different races can be taken to bits, so to speak, and reassembled almost at will in all kinds of new and pure-breeding combinations.

Thus Biffen's very practical work grew naturally out of the pure scientific principles of Mendelism. If they are well founded, then it should be possible to build up new varieties of plants and animals by deliberate crosses, instead of confining one's self to slow selection, just as modern chemistry deliberately makes new substances by basing itself on the atomic theory, instead of mixing things in hit-or-miss fashion in a test-tube. This is what Biffen set himself to do with wheat.

—of Better Wheat and More Milk

Let me take one example. He aimed at combining resistance to rust disease which he found in an otherwise poor strain of wheat, with the high yield of one of the best cropping strains. So he crossed the two, and the offspring were all susceptible to disease. This would have been discouraging to the older breeders—but not to a Mendelian, who knows that characters can be masked for a generation, but can be bred out pure. In his crosses he introduced also the character of 'hard' grain, rich in gluten, which the millers asked for, and strong straw to prevent the plants from being too easily 'laid' by storms.

The two main strains he manufactured thus were called Little Joss and Yeoman: Although not put on the market till 1912 and 1917 respectively, by 1927 they occupied about a third of all the world's wheat-lands! However, Yeoman doesn't suit all soils, especially clays and light sands; and now one of Biffen's chief aims is to make new types of Yeoman—by breeding in new features from other strains—which will suit every kind of wheat land in Britain. This is what he is mainly busy on now. Besides that, he is trying to manufacture a spring wheat suitable for this country. Spring wheats are not necessary with our mild winters: but the introduction of sugar-beet, which is not harvested until November or December, has made it desirable to have a spring wheat to put on land that has been under beet the previous year.

I shall come back to Biffen and his wheats later; but first let me take you to Professor Crew's Department at Edinburgh, which is designed to do for the breeding of animals what Sir Rowland Biffen's Institute aims to do for that of plants. I asked Crew what he thought were the most important practical results that his laboratory had achieved, and he replied, the inheritance of milk-production in cattle, a line of investigation which is still in progress. It began with an examination of all the herd-books which the Department could get from breeders—a task which obviously only a big central institution could undertake. The milk records of thousands of cows were studied, and also their pedigrees. This showed, as clearly as any paper analysis without actual breeding experiments can show, that the tendency to high milk-production was due largely to what scientists call sex-linked inheritance, which is a special case of Mendelian inheritance. A sex-linked factor means something, which a father transmits to all his daughters but to none of his sons. A male, on the other hand, can only receive it from his mother. A well-known example from human beings is excessive bleeding or hæmophilia—the disease which the Russian Tsarevitch had. He got the hereditary factor for bleeding through his mother, and if he had lived and married could only have passed it on through his daughters. Most hereditary factors, of course, are transmitted equally from father or mother to all offspring of either sex. You will readily see that if a sex-linked factor enters into milk-production, breeders must use quite a

different system of breeding from the ordinary: For instance, if you find a bull which sires a large number of high-yielding cows, instead of keeping his sons to breed from, as you would naturally expect, you must reject them all—for none of them will have inherited the father's good qualities.

What Crew would like to do is to test this out by actual experiment: but this would take years and be pretty costly, and at the moment he cannot get the money for such an experiment. However, it is clear, I think, that he is on the track of something which could put up the average milk-yield of the cows of this country by anything from 20 to 40, or perhaps even 50 per cent. And the work which first gave us our understanding of sex-linked factors and enabled Crew to spot one when he saw its results in the herd-books, was carried out at Cambridge University on moths and at Columbia University on flies.

Testing Results under Commercial Conditions

Now let us go back to Biffen and his wheats. It isn't enough to breed new varieties which seem all right on the experimental plot. They must be tested out under commercial conditions before they can be safely recommended to farmers. Biffen's own department cannot very well do this, and as a matter of fact the business is entrusted to the National Institute of Agricultural Botany. Testing is just as important in its way as breeding, for each variety will behave differently in different conditions of soils and climate; and the Institute, with its six testing stations in different parts of the country, helps with this. It would be a good thing if there were more stations, covering the country still more thoroughly, but meanwhile the Institute supplies this necessary link in a pretty adequate way.

Then we mustn't forget the soil. There are a few soils which are rich enough to dispense with chemical treatment, but with most soils you must put fertiliser on if the plant is to take out all it needs for optimum growth. The fundamentals of this problem are studied at the big Experimental Station at Rothamsted, directed by Sir John Russell, and many applications are being worked out at the experimental farm belonging to Imperial Chemical Industries at Jealott's Hill.

With regard to animals, the problem is more complicated; because there is an extra link in it—namely, the plants which the animals eat. Let us look at some of the points that arise. You can have the most wonderful breed of cattle or sheep in the world; but if you put them on poor pasture they won't do well. In fact, on really poor pasture they will do a good deal worse than much inferior stock, because to live and grow at all they need more and better food than the mediocre beasts. The pasture in its turn may be poor because it consists of poor kinds of grasses, or because it is growing on soil which is deficient in some important substances, like iron, or lime, or phosphorus.

Animal Nutrition at Aberdeen

There are two splendid institutions I visited which are especially concerned with these problems—the Welsh Plant Breeding Station at Aberystwyth and the Rowett Institute for the study of animal nutrition at Aberdeen, both of them largely financed from State funds. Let me begin with the latter. From its start in 1922, the work here has been directed by Dr. John Orr, and has had the general purpose of finding out the relation between diet and disease, both in animals and in men. The researches started on these lines have not only revealed how to cure a number of obvious diseases, but have shown that many animals and people who could never be classified as diseased are really suffering from slight deficiencies of diet, and that their health and vigour can be increased—often startlingly increased—if the diet is corrected. So that instead of the rather negative idea of remedying obvious disease, the positive aim of promoting health through diet is gradually becoming dominant in the Institute.

I shall only give one main sample of the work done here—the kind of laborious work which obviously can be undertaken only by a national institution with a long-term policy and regular funds at its disposal. It concerned the nature of the diet afforded by different pastures to the live-stock of this island. To start with, a pasture survey was made. Samples of herbage from nearly 400 different localities were taken and carefully analysed chemically. One thing that early emerged was that almost any pasture, even the best looking, could be improved, both in the quantity and quality of its yield, by adding the proper fertilisers. The next, and perhaps more important, point was that the great bulk of the hill pastures, which occupy such enormous tracts of country, especially in Scotland and Wales, were badly below standard in regard to the amount of lime and phosphorus in the herbage they grow; and further, this lack of the minerals necessary for bone-growth and for

health in the animals was almost linked up with a deficiency in the nitrogen needed to build up flesh.

It was further pretty clear that, in general, low mineral content of the pastures went hand in hand with a high incidence of disease in the stock—mostly sheep—which grazed them: but to get accurate information on this the Institute found it necessary to buy a farm of its own in Argyllshire, where careful experiment has been going on for nearly four years. This farm, in the mineral content of its herbage, is near the average of hill pastures. The experiments have shown that sheep on this farm not only did not get enough lime and phosphorus for healthy growth at any time of the year, but in the winter months weren't getting enough sheer nourishment, as measured in the energy-units that physiologists call calories. In winter-time, to get full health and reasonable growth, it would be necessary to supplement the herbage with extra nutriment such as maize, and also extra minerals—or else to treat the soil beforehand with a fertiliser which would supply the deficiencies.

In general it seems not only that a large area of the Scottish hill pasture is deficient in lime and other vital substance, but that the deficiency has been getting steadily worse for the last fifty years or so. It seems clear that by a proper use of mineral fertilisers on the pastures, or by extra mineral-containing rations for the stock, the carrying capacity of hill pastures could be at least doubled—that man could make two sheep grow where only one grew before. As a startling example of what proper feeding and careful management can do, I might mention that this year a cow at the Institute was made to rear no fewer than eleven calves in a single milk-period, in place of the two to four which is the usual number!

Plant Improvement at Aberystwyth

But before saying more about the thoughts which come into one's head about the Rowett Institute's work, I should like to tell you something about what I saw at Aberystwyth under the guidance of its director, Professor Stapledon. Professor Stapledon is an enthusiast about pasture plants in general and grasses in particular. I should imagine that he knows more about grasses and clovers than any other man in the world. I can only mention the special bits of research that are going on at his Institute:—an experiment with red clover involving half a million artificial crosses between different strains; work which is aimed at providing a new type of white clover better than the ordinary Dutch strain: breeding and selection experiments with oats and different kinds of grasses.

But the most obviously exciting work is going on high up in the mountains. Long years of careful research on a comparatively small scale had convinced Stapledon that he could change the whole character of the hill vegetation for the better. Last year Sir Julien Cahn gave a considerable sum of money to put these ideas to the test on a large scale. With this Stapledon purchased two tracts of land, one between nine hundred and thirteen hundred feet up, another bigger one above the fifteen hundred foot level. Both are just rough mountain pasture, yielding a scanty nourishment to sheep even in summer. In winter the flocks from such areas have to be sent down and boarded out at so much a head on the pastures of lowland farms. At the time of my visit at the end of September, the upland grasses were all turning ashen brown. Here and there, however, there were areas of summery green in the autumnal landscape. These were patches which Stapledon had treated according to his methods only a short six months before. They were covered with typical lowland grasses, which continue leafing much later than the types adapted to the bleak moorlands, and with a good proportion of clover.

Briefly, Stapledon has discovered that practically any hillside, at least up to the 2,000 foot level, can be turned into pasture of lowland type by combining three procedures. The first is to get rid of the existing vegetation and to break up the soil. The second is to sow with the right mixture of grass and clover seeds, and the third is to supply the right blend of mineral fertiliser. Once this is done, proper grazing with the occasional addition of fertiliser will keep the pastures in condition. Each of these three procedures has its long background of scientific and technical research. The first would be impossible without the development of the caterpillar tractor to pull agricultural implements over otherwise inaccessible hillsides. The right kind of tractors are already available; but the right kind of implements are now the practical core of the problem. Ploughing would do, but is expensive anyhow, and the ploughshares often get broken on stones. Harrowing is another method; scraping, as for aerodrome surfaces, or road-grading, another. Up in one corner of the moor is a collection of different types of implements that are being tried out. Perhaps a special one will have to be designed. But the finding of the right method here is now merely a matter of time and experiment. Then there is the second procedure, of sowing the right seed mixture. The background to this is long experience, and also years of rigorous selection, by which Stapledon has manufactured types of lowland grasses which will stand up to hill conditions. And, back of the third procedure, of supplying the right fertiliser, is nearly a century of experiment, beginning

with Lawes' and Gilbert's pioneer work at Rothamsted in the early Victorian era. None of the procedures alone, or in couples, will do. All three are needed.

The lowland type of pasture thus established has all sorts of advantages. For one thing it is more nutritious in itself, and, perhaps more important, it begins providing nutriment much earlier in the year and goes on providing it much longer. With such pastures available the hill farmers would be able to graze many more sheep on the same land, and to keep them all the year round instead of incurring the trouble and expense of boarding them out in the lowlands in winter. And there would be other advantages concerned with rearing fat lambs for sale at the best time for the market.

When you consider that nearly a quarter of the area of Great Britain consists of mountains and rough hill grazings you will realise what a staggering change could be made by putting the results of these researches into practice. Even if the results were only applied up to 1500 feet, the change would be enormous.

Is All this Work Worth While?

And now I ought to say something as to the general ideas which I got from what I have seen. In the first place, the fundamental research is without doubt well organised and ably directed. In plant and animal breeding, grass research, animal nutrition, soil science, fisheries, food storage, our British laboratories at Cambridge, Edinburgh, Aberystwyth, Aberdeen, Hull, Rothamsted, Jealott's Hill, backed up by the agricultural colleges and the University departments concerned with agriculture, are doing work of outstanding quality—original and vitally important. Then practically all the research men I have talked to showed an interesting mixture of optimism and pessimism. They all knew the scientific importance of their own work, and were convinced of its possible value for practice; several of them said to me that a doubling of the present amount of food grown in this country was not only perfectly possible, but a modest estimate of what could be achieved by applying the scientific knowledge which exists. That, by the way, would make these islands self-supporting in regard to most foodstuffs (though not with wheat).

But in contrast with this optimism as to possibilities was a pessimism as to actualities. What is the good of doubling the number of sheep in the country if sheep prices may drop so low as to wipe out any reasonable profit to the farmer? What is the good of inventing new brands of wheat that will make it possible to grow more bushels of wheat to the acre or to push wheat cultivation nearer the pole and further into half-desert regions, if the world's wheat-producers have on their hands vast surpluses they cannot dispose of profitably, and are clamouring for a restriction of output and cultivation? What is the good of inventing new methods of cold storage which enable ships to ransack the recesses of the Arctic Ocean for fish if a large proportion of the annual catch is thrown away or disposed of for manure?

And, of course, there is the conflict between home and empire. What about New Zealand mutton and Australian beef if we double our own live-stock, or Canadian wheat and apples if we increase the home output? And there still remains the problem of the balance between agriculture and industry. If we are to go on exporting coal and steel and machinery and motor-cars to other countries, they must be paid for by our taking something in exchange from those countries: food-stuffs form one of the biggest items in that balance-sheet.

Then there are the conflicts of interests at home. There is the interest of the breeder of pedigree cattle of a certain breed against the general livestock interest: that of the seedsman as against the farmer: of the wool merchant against the sheep breeder: of the middleman as against the producer and the consumer—one could go on almost indefinitely!

The outlook, mind you, isn't all black. Much of the scientific results could be applied tomorrow to bring down cost for the farmers, and so make it possible for many more of them to make a decent assured profit instead of scraping along in a hand-to-mouth way or even falling over the edge into failure. But that is looking at the problem from the producer's angle only: the consumer is another matter. And there for the moment the trouble is serious. You have very large sections of our 40 millions of people not getting all they would like to eat, and quite considerable sections definitely getting too little for full health and growth and energy: and yet there is restriction of output and even destruction of food, as when herrings are thrown away or milk poured down the drains to keep the price up. That, however, is not the fault of science, but of our economic system, and how that is to be remedied is a question for economists and administrators. Meanwhile it does lie like a barrier across our hopes for a well-nourished healthy nation. But the hopes are there, and if the barrier of the system seems strong, the basis of the hope is strong too! And that basis is the certitude that science, if its existing knowledge were properly applied, could at least double the amount of food we produce in these little islands, and could put up world-production to a level at which there would be enough and to spare for the 2,000 million human beings in existence.

The Transmutation of the Atom

(Continued from page 564)

mass 1 enters the lithium nucleus of mass 7, and this then breaks up into two α -particles each of mass 4. If this be true, the α -particles should fly off in nearly opposite directions. This has been verified and is beautifully shown in the photographs of the tracks of the α -particles obtained by Kirchner in Munich and by Dee and Walton in Cambridge.

We are not able to follow in detail the complicated and intense reactions which must occur in this transformation, for we are not yet certain of the constitution of the lithium nucleus before the capture of the bombarding proton. There seems to be no doubt that one at least of the helium nuclei ejected must have been formed *in situ* in the nucleus from the constituent neutrons and protons. In these types of nuclear reaction, more than one type of transformation may take place, and there is strong evidence that this is so in lithium, but the exact nature of these transformations is still unknown.

Cockcroft and Walton found that the number of α -particles observed increased rapidly with voltage, and was very large at 500,000 volts, while Oliphant has shown that the transformation of lithium can readily be detected for an accelerating voltage of only 30,000 volts. This result would have been difficult to understand on the old ideas, but is quite in accord with the new wave theory of matter. Gamow has shown that there is a chance, even if a very small one, for a comparatively slow particle to penetrate the strong electric barrier round the nucleus.

Cockcroft and Walton found that not only lithium, but also boron and fluorine, emitted α -particles under proton bombardment. The exact nature of these transformations has not yet been settled, but it may be that the boron nucleus of mass 11 captures a proton and then breaks up into three α -particles each of mass 4. In general it appears that proton bombardment leads to the emission of α -particles and the formation of elements of smaller mass, while α -particle bombardment causes a rise in mass of the resulting element.

I must now say a few words about some very important experiments with a new type of projectile which have been carried out by Professor Lawrence in the University of California. The work of a number of scientific men in the United States in the last two years has shown that ordinary hydrogen of mass 1 contains in very small quantity another isotope of mass 2. Although the quantity of this heavy hydrogen is only about one part in 6,000 of the main isotope, yet Professor Lewis of the University of California has succeeded by electrolytic methods in obtaining quantities of this heavy hydrogen in nearly a pure state. When we consider what a large part hydrogen plays in the structure of organic molecules, I need not emphasise the extraordinary interest of this discovery, both to chemistry and physics. This heavy hydrogen has the same chemical properties as ordinary hydrogen, but the water formed from it has a density 10 to 11 per cent. higher than ordinary water, and has also a different boiling and freezing point. Just before these experiments of Professor Lewis were undertaken, his colleague, Professor Lawrence, had devised a very ingenious method, depending on multiple acceleration, of obtaining protons of energy as high as 2 million volts. When this heavy hydrogen was used, the projectiles of mass 2 were found even more effective than protons in causing disintegration in many elements. For example, lithium was transformed into two α -particles each of speed greater than any α -particle observed from radioactive substances. In this case, the isotope of mass 6 appears to be involved. The capture of the hydrogen nucleus of mass 2 leads to the break-up of the nucleus into two α -particles flying off in opposite directions. This has been amply verified by the beautiful photographs obtained by Dee and Walton. In addition, many other atoms were found to be transformed by the same agency with the emission of α -particles, and in some cases very fast protons were also observed. The interpretation of this effect which is shown even by some heavy elements will surely prove of great importance in further developments. Professor Lewis kindly sent me some of this heavy water, and Dr. Oliphant and I have been able to confirm and extend these results with lithium using only 100,000 volts on the discharge tube. There can be no doubt that this new kind of projectile will prove of great service in our attack on the transformation of the elements. It will be of great interest to compare in detail the types of transformation that arise from the use of these two kinds of hydrogen as projectiles.

It is interesting to consider the energy changes involved in these transformations. We have seen that a proton of energy corresponding to 30,000 volts can effect the transformation of lithium into two fast α -particles, which together have an energy equivalent of more than 16 million volts. Considering the individual process, the output of energy in the transmutation is more than 500 times greater than the energy carried by the proton. There is thus a great gain of energy in the single transmutation, but we must not forget that on an average more than 1,000 million protons of equal energy must be fired into the lithium before one happens to hit and enter the lithium nucleus. It is

clear in this case that on the whole the energy derived from transmutation of the atom is small compared with the energy of the bombarding particles. There thus seems to be little prospect that we can hope to obtain a new source of power by these processes. It has sometimes been suggested, from analogy with ordinary explosives, that the transmutation of one atom might cause the transmutation of a neighbouring nucleus, so that the explosion would spread throughout all the material. If this were true, we should long ago have had a gigantic explosion in our laboratories with no one remaining to tell the tale. The absence of these accidents indicates, as we should expect, that the explosion is confined to the individual nucleus and does not spread to the neighbouring nuclei, which may be regarded as relatively far removed from the centre of the explosion.

The general law of conservation of energy appears to hold in these intense nuclear explosions. On modern views there is a close connexion between the mass of a body and the energy stored up in it. Any decrease of mass of a system is accompanied by the emission of a definite quantity of energy in one of its characteristic forms—for example, in the form of energy of motion of one or more of the particles concerned, or in the emission of radiation in the form of X-rays, or possibly both types of energy together. Now, in the lithium transformation, the relative masses of the proton, nucleus and α -particle are known with considerable accuracy. When we take into account the change of mass of the system before and after the nuclear explosion, and the kinetic energy of the expelled α -particles, we find that there is a close balance showing that this generalised form of conservation of energy holds within the accuracy of the observations. It is to be hoped that this law of conservation will prove a reliable guide in interpreting other types of nuclear reactions.

My listeners may quite naturally ask why these experiments on transmutation should excite such interest in the scientific world. It is not that the experimenter is searching for a new source of power or the production of rare and costly elements by new methods. The real reason lies deeper, and is bound up with the urge and fascination of a search into one of the deepest secrets of Nature. Until a few years ago, we had to be content with the knowledge that the whole of matter in the universe, including our own bodies, was made up of ninety or more distinct chemical elements, but we had little definite knowledge of the inner structure of their atoms or of the processes by which one element could be converted into another. Now, for the first time, we are able to investigate these problems by direct experiments in the laboratory, and we are hopeful we shall soon add widely to our knowledge. The information so gained cannot but widen our outlook on the nature of matter, but must also have a direct bearing on many problems of cosmical physics. For example, in the furnace of the sun and other hot stars, the electrons, protons, neutrons and atoms present must be endowed with high average velocities owing to thermal agitation. It is thus to be expected that the processes both of disintegration and aggregation of nuclei, such as are observed in the laboratory, should be operative on a vast scale for all nuclei, and that a kind of equilibrium should be set up between those two opposing agencies of dissociation and association for each type of atomic nucleus. It is well known that the abundance of the elements in our earth's crust varies very widely. Some elements like iron, nickel and oxygen are abundant, whilst others like lithium, platinum and gold are relatively rare. The information to be gained in our laboratories on the efficiency of various types of agencies in transforming atoms may help us to throw light on the reason for the relative abundance of different elements in our earth, and thus in the sun from which our earth is believed to be derived.

In conclusion, let me say a word on the prospects of obtaining further knowledge of transmutation in the near future. While it is dangerous to prophesy in science, the main lines of attack are sufficiently clear to look at any rate a short distance ahead. In the first place, plans are being matured in many laboratories throughout the world to obtain much higher voltages and faster particles of all kinds for a further intensive attack on this problem. Van de Graaff has devised a new type of electrostatic generator whereby he hopes soon to obtain a steady potential of ten million volts with which to accelerate atoms in a discharge tube. The magnitude of this voltage may be gauged from the fact that it will give a miniature lightning flash more than fifty feet long. Lawrence, by a special method of multiple acceleration, hopes to obtain projectiles with energies greater even than those carried by the α -particles from radium. Observations are also being made on the transformation effects of the extremely energetic particles present in the cosmic rays which pass through our atmosphere. Many of these have an energy of one hundred million volts, while some are believed to have an energy of more than one thousand millions volts. No doubt also the possibilities of transmutation by high frequency radiation of the X-ray type will be carefully examined. There

seems to be little doubt that by the use of still faster particles of different kinds and possibly by other agencies, we may hope in the next few years to observe the transmutation of some of the heavier elements on a small scale. As we have seen, a successful method of attack on the general problem has now been opened up, and extraordinarily powerful yet delicate devices are available for studying the diverse effects which may arise during the transformations.

As one whose scientific life has been largely devoted to investigations on the structure and transformation of the atom, I watch with much interest and enthusiasm the development of these beautiful experiments to add to our knowledge of the constitution of nuclei. No one can be certain what strange particles or unexpected phenomena may not appear. I know of no more enthralling adventure of the human mind than this voyage of discovery into the almost unexplored world of the atomic nucleus.

The Garden

Plant Your Roses Now

By H. NORMAN

WILL you be planting any roses this autumn? If so, may I offer a little timely advice on the subject? The main reasons why so many people go wrong in growing roses are often badly cultivated soil, planting weakly kinds of roses, and overdosing with artificial manures. Let us first take the soil. Roses will not do well unless the soil is well drained. In most cases deep digging will suffice; but in some cases the level of beds should be raised, or drains put in. One great mistake that is often made is putting off the purchase of roses until the spring. I have nothing to say against spring planting—in fact, there may be certain reasons for doing so, such as a very wet autumn, or the beds not being ready, and so on. But you may find that just the roses you were most keen on having are all sold by the spring. There is always great demand for the best and popular varieties, and the strongest trees often go to the earliest buyers. So if you are going to buy roses, get them as soon as you can. Never mind if you are not ready to plant. You can just put the trees in roughly until it is convenient to plant them properly.

Now we come to the manure question. It is often said that roses are gross feeders and will take almost any amount of manure. This is where great mistakes are made. Newly-planted roses should not have any manure for the first year. In after years they should have it in moderation.

Avoid planting too deeply. The junction of the rose and root stock should be just about an inch below the surface of the soil. This can be ensured by laying a stick across the hole after it is dug. Be certain to make the bottom of the hole firm by treading, or you will find that owing to the settlement of the beds, your plants will be too far out of the soil. If the soil is of a heavy nature let the bottom of the hole be quite flat, so as to keep the roots as near the surface as possible, but if very light and sandy, let the roots incline downwards. Cover the roots with some good friable soil if the soil happens to be a bit sticky. Firm planting is advisable but don't overdo this. Standard roses should be planted about five or six inches deep. Don't forget the stake. Iron ones are by far the best. I use old gas piping; it is quite cheap to buy and will last for many years. When planting roses, take care not to let the roots get dry. It is quite a good plan to mix some clay and water in a bucket and dip the roots in it. This will save all the tender root fibres.

And now we come to rose beds and the kinds of roses to grow in them. Roses should always be grown by themselves, if possible. I find that beds five feet wide are the best; the length, of course, doesn't matter. This allows for three rows of trees, planted eighteen inches apart. Beds of this size are quite easy to attend to without treading much on the soil.

If the garden is fairly large, beds planted with one variety certainly look the best, but where the garden is small many varieties will have to be grown together. Care should be taken, when planting a mixed bed, not to include such varieties as Hugh Dickson and Frau Karl Druschki, or they will soon have nearly the whole bed to themselves. If you like these roses grow them as standards; they are quite good in that form.

A dozen first-rate roses, either for growing in a mixed bed or as beds of one variety are Lady Sylvia, Mrs. George Geary, Etoile de Hollande, Emma Wright, Shot Silk, Dame Edith Helen, Mrs. Henry Bowles, Mrs. Sam McGredy, Christine, McGredy's Ivory, Barbara Richards, Betty Uprichard. The last-named is rather a tall grower, so if you use it for a mixed bed, keep it to the centre.

Single roses are lovely things for cutting. Dainty Bess is one of the most beautiful. Kirsten Poulsen and Else Poulsen are also very popular—Else Poulsen is a little more than single—and they soon grow into good sized bushes, if not pruned too hard. They also make fine standard roses.

Then there are the dwarf Polyantha roses or baby ramblers, which are excellent to grow in beds, especially where a good show of colour is the main object. They are very easy to grow, and nearly always in bloom. A few of the best are Edith Cavell, Coral Cluster, Gloria Mundi, Alice Amos.

If you have not tried any of the hybrid musks yet, give some of them a trial. They are mostly strong-growing roses. I like to grow them as natural bushes without any pruning, but, of course, they need a good deal of space when grown in that fashion. You can, however, prune them to keep them within bounds, or you can grow them as informal hedges. It is surprising that these roses are not better known. If I were limited to one I should grow Penelope, but Prosperity and Cornelia are also very good.

I am often asked which are the best roses to grow on walls. This depends, of course, on the aspect. For a south wall, Climbing Madame Butterfly or Madame A. Chatenay would be quite good. For an east wall, Paul's Scarlet or Climbing Caroline. On a west wall the climbing *Daily Mail* scented rose does very well. Owing to the absence of sun on a north wall, the selection is very limited: Gloire de Dijon is most likely to succeed. When planting roses against walls, see that they get some decent soil to grow in. Usually the soil in that position is very poor stuff. Another thing to remember is that the plants are likely to remain where planted for a long time.

Now just a few words on ramblers. Here we have a fairly large class, but one that is very little known. Everyone, of course, knows Dorothy Perkins. American Pillar is also quite well known. But very few people know of some of the more interesting kinds that are to be had. Sometimes one sees quite small gardens crammed full with Dorothy Perkins. I have nothing to say in its disfavour, but the garden would be much more interesting if several other kinds were grown.

There are quite a number of ramblers that have fairly large blooms, and are quite useful for cutting purposes, such as Dr. Van Fleet and Albertine. Then there are Paul's Scarlet and Chaplin's Pink. These do nicely as pillar roses and keep in bloom for a long time. For those of you who place scent before everything else in a rose, let me recommend Sander's White. Try it as a weeping standard. While on the subject of weeping standards—don't buy them too tall. About six feet is quite tall enough. Not only do you get less growth when the stems are very tall, but they are also difficult to support against strong winds.

This is quite a good time for putting cuttings in. All the ramblers root very easily. In fact, nearly all strong-growing roses can be increased in this way. Many of the Hybrid Teas can be grown from cuttings. Here is the method: use lateral shoots and cut them off close to the parent stem; the cuttings should be about nine inches long and well ripened. Remove all but the two top leaves and plant six inches deep. Give them a good open position to grow in, and push them down now and again during the winter, so that the base of the cutting rests on the soil. Roses grown this way are not as vigorous as those grown on a briar stock, but if they grow slowly, they live a long time.

The rose is a fresh air fiend, and does not like town life a little bit. All the same, it is possible to get quite fair results in the town by selecting only strong-growing roses, such as Hugh Dickson, Frau Karl Druschki, Betty Uprichard, General McArthur and Ophelia. Bush roses are to be preferred. Standards are not a great success as a rule, but if the roses are to be grown in fairly open ground even they can be tried. Ramblers will do quite well.

The soil in town gardens is one of the great drawbacks, but that can be improved. A dressing of lime or basic slag, about a quarter of a pound to the square yard, is advisable. One thing you must do, buy good strong healthy trees to begin with: weakly plants are sure to fail.

Points from Letters

Owing to the pressure upon its space, THE LISTENER is able to publish only a selection from the correspondence which it receives. Correspondents are asked to write briefly and to the point, and are reminded that name and address must always be given, even where their publication is not desired. THE LISTENER, of course, undertakes no responsibility for the views expressed in these columns

The Group Movement

Many thanks for Dean John Maud's article on the Group Movement in THE LISTENER of October 11. On the whole, the criticisms and appreciations cancel out fairly well, leaving just a little faint praise. Gamaliel could not have done it so well. May I comment on the charge that groupers 'refuse to think' on national, international, economic, social and political problems—though the complaint is modified by the statement that 'thinking about problems is not enough'? One may ask why the World Economic Conference did so little—not for lack of hard thinking but probably because the Christian absolute of unselfishness was ignored. Again, real and painstaking thought has gone to the problem of disarmament, but the daring love enjoined by Christ is probably more essential to success. Groupers are alert to these matters, as their beneficial influence on South African problems proves. Their recent witness in Geneva which, spreading by way of Zurich and Berne, has passed into Germany, is having a healing result. The world is but a small place and needs, for the healing of its problems, not only hard thinking but also human kindness and consecrated persons. When I accepted the Group position eleven months ago, I got a tremendous deepening of life in the will, the emotions and the intellect. Since then I have attended a House Party and a dozen other Group meetings in various places; but so far cannot recall meeting any conceited saints but only sinners very happy at finding themselves freed from their old life. The morning quiet time on which the Groups 'insist' when one submits to 'guidance' is a very profitable form of exercise in thinking, and is not in opposition to the reminder that we must serve with the mind.

Please do not fear for our minds, though there is much to learn and much to do. So far I have not joined any church. I do not know how many Groupers are in my position, but I think the numbers of such will increase. What shall we do; and who is likely to welcome us?

Corbridge-on-Tyne

J. E. DICKINSON

Vulgarity in Art

Mr. Herbert Read in your last issue admirably states the case for honest vulgarity as 'an antidote to . . . snobbery and over-refinement'. Could he perhaps prescribe some honest vulgarity as an antidote to the caption-writer for the illustrations to his own article, who has fallen a prey to the snobbery (or is it over-refinement?) of preferring a long exotic word to a simple native one—unfortunately, however, with such lack of etymological knowledge that he imagines that *congeries* is a plural and *congerie* its singular? I admit the tempting analogy of *lingerie*, but in such matters analogy is not enough.

King's College, Strand

J. S. HUXLEY

Design in Postage Stamps

Mr. Harry Carter's article in THE LISTENER of September 27 raises issues which are of such infinitely greater importance than any arising from philately that I am surprised no one has yet written to ventilate them. Those foreigners who do not travel (even today the majority) are apt to judge our graphic art by the examples they see most frequently—our postage stamps. Put bluntly, this means that Great Britain is assumed to have none worthy of the name, modern or otherwise. It is common knowledge that, so far as stamps are concerned, this unflattering opinion has never been revised, for lack of cause, since the introduction of the last set to bear Queen Victoria's head (the violet penny, etc.).

Mr. Carter makes certain statements that cannot be allowed to pass unchallenged. One is that 'every time a change is made we invite designers to provide a stamp at least as good as any that went before, and every time they provide one at least as bad'. Who invites what designers? Who among Mr. Carter's all-embracing national 'we', except the omnipotent P.M.G., or some deputy of his, has any say in the matter? Has any recent Postmaster-General ever been known to invite craftsmen of comparable calibre to men like Frank Dobson, Eric Kennington or E. McKnight Kauffer; or to institute a competition for the purpose? If so, why has nobody heard about it? In expressing his contempt for the current issue (a contempt most people share, though not necessarily with his easy tolerance), Mr. Carter says that they remind him of Queen Victoria's defence of the Albert Memorial: 'The best artists procurable were employed'. So they were in that case. We know their names, and that their age could not command better. But who were the 'artists' of our present shoddy halfpenny to pound postal labels, and who dares to assert that they were anything approaching 'the best procurable'?

Mr. Carter rightly insists that the design of stamps requires 'someone not too sophisticated to care for letters, figures and conventional emblems for their own sake; not as material for interpretation'. By European consent we have in men like Eric Gill, Percy Smith and Edward Johnson the world's finest (*i.e.*, most straightforward and unsophisticated) living letterers. Has the G.P.O. ever invited them to give their services? And can anyone doubt that 'London Traffic' or the B.B.C. (stamps were the first national form of international broadcasting) could produce a worthy series of British postage stamps within a few weeks or months? Why must the designer 'allow for such prerequisites as the words "Postage and Revenue"', which usage and familiarity have made wholly redundant? Many countries suppressed them for this very reason long ago. 'Britain' (preferably without the prefix 'Great') would be more to the point, and quite enough. Nor, as many British Dominions, Crown Colonies and Protectorates have proved, is there any need for the King's head to be a perpetual *sine qua non*. Mr. Carter's strangest technical recommendation is 'the avoidance of very fine lines or too much solid colour'. To take two examples at random; the current Italian and German issues (which bear King Victor Emanuel's and President von Hindenburg's heads respectively) have both plenty of solid colour, and look all the better for it. They have also (anyhow, to my philatelically untrained eyes) plenty of very fine lines.

As for British stamps having to embody 'considerations of policy . . . such as anticipating the criticisms of connoisseurs, artists, patriots and philatelists', the fact that not a single United Kingdom Edwardian or Georgian issue has ever been praised for its design is sufficient proof that no Government official with a deciding voice gives a thought to the first two categories. Nor can Mr. Carter's arguments against periodic special issues, commemorating the anniversaries of our great men, or historical events, or showing famous British scenes, be considered in the least convincing. They would help to spread the study of English culture abroad and foster the 'Come to Britain' movement. Special air-mail stamps would advertise that useful service far better than the existing leaflets. Philatelists will buy any new issues: a consideration which the G.P.O. is hardly justified in ignoring now that it augments its revenue by general advertising in post offices. The present issue degrades the posting of every postcard, letter and parcel. For nearly fifty years our stamps have been a national disgrace and an international reproach. It is time we ended this state of affairs. Today no valid excuse remains for its continuance. We have the right designers, but they are not employed by the powers that be.

Ladbroke Grove

P. MORTON SHAND

Modern Folk Music

In his interesting article on English Music in THE LISTENER of October 4, Dr. Armstrong remarks that 'what really matters is . . . that there are more and better village choral societies, and Women's Institute choirs, and more people who care knowledgeably about music . . . that our schools, the competitive festival, and the wireless are broadening the base of this musical experience by carrying music back into the farm and the cottage'. It seems to me there is some confusion here. Is Dr. Armstrong writing from a social or from a strictly musical point of view? If from the social, he forgets that the mass of our population is now an *urban* proletariat, and that a true folk art (*i.e.*, in modern times, a proletarian art) is one not merely accepted by the folk but also produced by it. From the purely musical standpoint also he fails, as do so many professional musicians, to realise the existence of a new folk music in the form of dance music and the popular song, the rhythms of which are already supplying new elements in serious, or what may be called academic, music.

Beckenham

A. C. SEWTER

Betrayers of Napoleon

When I read Mr. G. K. Chesterton's lecture in your columns I confess that I rubbed my eyes. That he, of all men, should accuse Ney, of all men, of betraying Napoleon! I hope that I shall hear him making a correction and substituting the name of Marmont; for, whatever other faults poor Ney may have had, no partisan of Napoleon can accuse him of treachery. At Ulm, at Jena, at Quatre Bras he failed his master; but through rashness in the first instances and through over-caution in the last. It is true that on April 4, 1814, it was he who bearded Napoleon and made plain that he must abdicate; but to charge him with treachery on this score would be to charge also the chivalrous Macdonald, against whom no breath of criticism has ever been uttered. Ney has been charged with treachery to Louis XVIII; let no man who loves his country and hates civil

war be too ready to subscribe to such a charge. To France Ney was ever loyal. Lannes and Bessières died on the battlefield; but when Ney rode north to join Napoleon on the eve of Waterloo, he had written his own death-warrant for the sake of his imperial master. And I hope that Mr. Chesterton, himself the most gallant of fighters, will not suffer himself to be quoted as tarnishing the escutcheon of 'the bravest of the brave'.

London, S.W.5

MAURICE HEALY

Must Science Ruin Economic Progress?

In the course of the article, 'Must Science Ruin Economic Progress?' in THE LISTENER of October 4, an argument is advanced which, I think, will scarcely stand the test of analysis. I quote the actual words: 'The "latest" machinery can go on working excellently for many years but long before it is done for a new invention or improvement may so outmode it that it has to be scrapped. The new thing may do the old job a shade better or more cheaply, but this small gain may be trifling compared with the loss caused by the supersession. . . . It is a fact that the majority of modern innovation does not pay the costs of obsolescence'. Surely the truth is this. Capital invested in a machine is to be regarded by its owners as a sunk cost. If a new machine is invented and adopted which performs the same work more cheaply, the old machine will not be scrapped at once. It will continue in operation as long as its product sells at a price which, besides covering the prime costs of operation, yields something (however small) for its owners. If the new machine is so efficient that its competition with the old machine drives down prices just *below* the point at which the prime cost of working the old machine is covered, then the old machine will be abandoned. But the capital loss suffered by its owners will not be an uncompensated loss, as is suggested; for the consumers of the product will receive an equivalent gain as the result of the lower prices at which they can now purchase that product.

I have no quarrel with the remainder of the argument. The innovation will undoubtedly cause temporary economic dislocation, and may cause permanent local losses. These local losses are, I imagine, the losses which Sir Josiah Stamp had in mind. But it seems, nevertheless, erroneous to suggest that, taking the world as a whole, any uncompensated loss occurs through processes of innovation resulting in obsolescence, as your contributor argues. Whether, as is said later in the article, the benefits of greater cheapness resulting from innovation fail to balance the human cost due to the displacement of labour, is not a question within the sphere of economics; for while it is possible to measure, in terms of money, the gains accruing from reduced prices, it is impossible to evaluate human costs in terms of money. The human losses must be reckoned within the formulation of social policy, and they may justify attempts to slow down the rate of innovation; but they are of an entirely different order from the financial losses contemplated in the part of the article I have quoted.

Liverpool University G. C. ALLEN

Snakes and their Young

Mr. Morrison is hard to convince. He insists on what he calls first-hand evidence, and only will admit of actual dissection. The letter which I quoted was from a well-known London surgeon, whose address I can supply, and perhaps if Mr. Morrison takes the matter up with him, he will consider the evidence first-hand. I may add that I continue to get letters from people who aver that they have seen the mother adder swallowing her young. These, I know, must not be admitted as direct proof, yet it is unlikely that all these people should be mistaken.

Petersfield E. L. GRANT WATSON

I have seen a 'slow-worm' dissected and two young ones lying at length inside of it. This is the story. A pair were nested in a bit of orchard by my house and for what seemed sufficient reason their removal was desired. So the chauffeur and I dug up the nest and killed two adults and eight or ten young, the latter about the thickness of a knitting needle. The chauffeur, a local man, knew or had heard that the young took refuge inside the parent and insisted on doing a *post-mortem* in my presence, with the result just mentioned. That no more than two had found refuge was probably due to the rapidity of our attack. I was surprised that even they had had time to hide away. Of course the slow-worm is technically not a snake, but this true tale may nevertheless have its interest for Mr. Grant Watson and Mr. Morrison.

Parkstone

ALEXANDER TOCHER

Function of the Adder's Tongue

In reply to Mr. Grant Watson's interesting experience of seeing a snake licking a blade of grass, I have to admit that I have never in all my life observed a serpent licking any object with its hair-like tongue. What then is the function of this organ? I am of opinion that it is used by the snake as a feeler. The range of vision of the adder spreads out fan-like at almost right angles from each side of the head, where the eyes are set. The eye-balls are fixed, and therefore cannot be moved independently of the head.

That being so, there is a point immediately in front of the creature which is practically outside the purview of the eye. It is to investigate this dark or semi-dark area that the reptile has to make constant use of the tongue or feeler, as it moves along, to warn it of obstacles or enemies in its pathway; hence the incessant play or shooting out and in of this slender flexible instrument. The tongue is a delicate organ, composed of a double muscle united from the root to near the tip where it divides and becomes fork-like in shape. As it is forked, its range of operation is increased, and it is more effective as a feeler.

I heartily agree with Mr. Grant Watson in his suggestion that we should be more tolerant and more kindly disposed towards snakes. Owing to ignorance, the average person has a horror of



serpents, which are looked upon as malignant creatures. But in fairness to the adder I must state that it is a most timid, nervous reptile, and will never use its fangs except in self-defence or to procure food, but will glide quickly under cover from the presence of an intruder. The accompanying illustration plainly proves that kindness renders these reptiles harmless. These adders have their fangs intact, and could, if they liked, give me a dangerous bite—particularly the one over my ear. I handle them kindly and delicately, and thus gain their confidence. I do not use gloves when handling my captive snakes, and I have never been bitten.

Campbeltown

NORMAN MORRISON

Cinder Paths at Whipsnade

Might I alter the title of Mr. Vernon Bartlett's article and say to Mr. Herbert Palmer, 'Indignation is not a critical attitude'? The sight of the Whipsnade cinder paths so angers him that he hastens to put all the blame upon black, pressing upon it objective qualities which make it 'against healthy Nature' and a 'disturbance to the whole æsthetic sense'. But all colour is a relative matter, and black can never really be said to be absolutely and exclusively black, any more than the darkest mountain rocks, as Mr. Palmer observes, are black, or a black dog is black, or a black cat. What really troubles Mr. Palmer is not the blackness of the cinder path, but the discord it strikes with Nature, who has not yet assimilated it and harmonised it with herself. When I saw the fire-scarred sides of the great down north of Swanage a few days ago, I felt that already Nature was working to restore life and harmonious colour to the wasted area. So verdure spreads over the cinder path where it crosses the field, and leaves carpet it in the wood. The hard surface of the tarred road reflects the changing colour of the sky, and even the harsh red brick of most of our rural and suburban housing estates (which Mr. Palmer forgets are as much against Nature as cinder and tar), the pocky drabness of rough-cast and pebble-dash, and the acid pink of asbestos tiling, are subject to natural and ameliorating influences. But not so easily affected are the actual shapes which the colours adorn. The elements can sculpture the slag-heaps of the mining areas into forms of a rhythmic and inspiring beauty, but the jerry-built villa will remain vulgar and formally horrible as long as it stands. Urban and civilised man is be-

coming more and more heedless of Nature; more and more often he is constructing in materials of a permanent quality shapes and forms which can never be in harmony with the universe. It seems to me that we should worry about this rather than about such temporary things as cinder paths. We should try to save future generations from the affliction of another Regent Street or another Bournemouth.

London, S.W.10

ALAN VERNER SMITH

Memoirs of the Unemployed

Although Mr. Reid's letter in your issue of September 27 is a plea for fair comment, I note that he himself speaks of tenants and workmen in terms of arrogance and abuse. He even questions the veracity of the man whose memoir was printed in your issue of September 6. I suppose if this man had been an employer instead of one of the unemployed the truth of his statement would have been taken for granted? Again, he speaks of 'the patience

and kindness and generosity and affection with which nearly every employer treats his workpeople'. Only in a society which fosters poverty, crime, suffering, and inequality can these things be deemed virtuous. If in any society a member suffers from pain or want when that suffering might be relieved, then, in so far as that member suffers, that society fails.

Cannock

GEORGE HARLEY

Our Scottish Correspondent Replies

Professor Read's correction of a point of detail must be accepted, and with apology. It does not, however, in the least affect the generalisation that St. Andrews tends at the moment towards scientific specialisation. As for the decline of humane letters in the Scottish Universities generally, the conclusions of a layman deeply interested in such matters are at least as valid as those of a Professor of Chemistry.

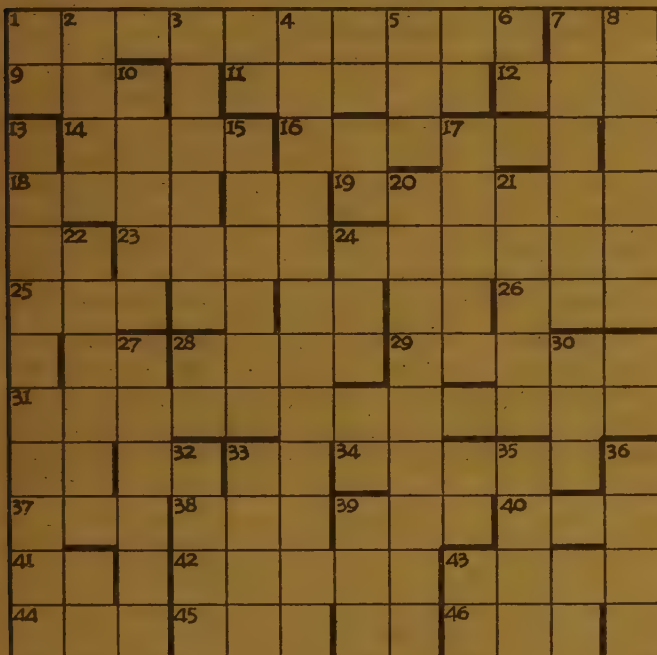
YOUR SCOTTISH CORRESPONDENT

This Week's Crossword

No. 188—'Gradatim II'

By 'AFRIT'

Prize: *How the Mind Works*, by Cyril Burt (Allen and Unwin, 7s. 6d.). Closing date: First post on Tuesday, October 24.



NAME

ADDRESS

ALTERNATIVE PRIZE

CLUES

As in 'Gradatim I' (No. 142), each step is suggested by its predecessor.

ACROSS				DOWN			
1.	Step 17	29.		2.	Step 68	20.	Step 37
9.	25	31.		3.	52	21.	31
11.	25	34.		4.	40	22.	64
12.	42	37.		5.	88	24.	36
14.	55	38.		6.	10	27.	28
16.	7	39. 40		7.	27	30.	65
18.	74	41.		8.	58	32.	39
19.	50	52.		10.	34	33.	44
23.	61	43.		13.	26	35.	84
24.	33	44.		15.	45	36. 39.	76
25.	58	45.		17.	35	43.	13
26. 28.	80	46.					

STEPS

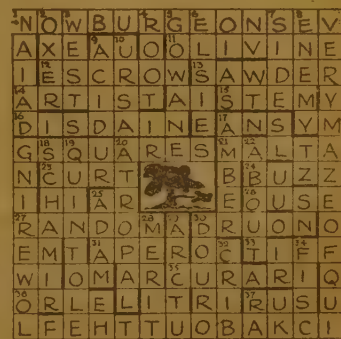
1. Court.
2. Plaster.
3. Paris.
4. Rome.
5. 29 Across.
6. Stone.
7. 16 Across.
8. Sang.
9. Azur.
10. 41 Across in 6 Up.
11. 41 Back-6 Up.
12. Kipps.
13. 46 Back-43 Up.
14. Numb skull.
15. Costard.
16. Costermonger.
17. 1 Across 43 Back.
18. Vocative.
19. 31 Across.
20. October.
21. March.
22. 45 Back.
23. Sorrel.
24. English 9-11 Across.
25. 9-11 Across.
26. 13 Down.
27. 7 Down.
28. Anagram of 27 Down.
29. Singular of 27 Down.
30. 34 Across.
31. 21 Down.
32. Anagram of 21 Down.

33. 24 Across.
34. 10 Up-ty.
35. Anagram of 17 Down.
36. 24 Down.
37. 20 Down.
38. English 20 Down.
39. 32 Down.
40. 4 Down.
41. Chilblains.
42. **12 Back.
43. 12 Across.
44. 33 Down.
45. 15 Down.
46. English 15 Down.
47. Sage.
48. Magus.
49. Star.
50. *19 Across.
51. 40 Back-39 Across.
52. 3 Down.
53. Egypt.
54. Fellah.
55. 14 Back.
56. Borrow.
57. Steal.
58. 25 Across or 8 Down.
59. Fascist club.
60. Unfriendly Society?
61. Modern 23 Back.
62. Loud speaker.
63. Stump.

* One letter misplaced ** Two letters transposed
 NOTES—9. Cf. 'Lady Sangazure' (*The Sorcerer*). 17. Save the mark! 18. Suggested rather by 1 Across than by 43 Back. 20. 21. Trout fishers may see a connection! 24. In another case? 29. Two dots and carry one. 58. U.S. and Italian. 59. *Pulset mihi licetorem!* 64. Do This Up if you cannot Do It Down! 87. This nearly lets the cat out of the bag! 90. 89 being a married man.

Report on Crossword No. 186

The quotation from Tennyson's 'In Memoriam', 'Now burgeons every maze of quick about the flowering squares' presented little difficulty to competitors. The hardest clue seems to have been 21 across MALTA. The *Universal History of the World*, Vol. I, under the heading of 'Survey of Early Mediterranean Cultures' gives a description of the two huge temple labyrinths of Hagiar Kim and Mnaidra in Malta. 26 across provided an opportunity for inventing many ingenious alternatives, and OGEE and ORLE are accepted. For the origin of the proverb about St. Druon (30 across) readers are referred to Brewer's Dictionary of Miracles. The three prizewinners are: C. M. Jenkin-Jones (Bootham), L. A. Jones (Tonbridge), and E. Trevor Hardman (Eastbourne).



NOTES—'THE MAZE'

The quotation is from Tennyson's 'In Memoriam' CXV

13. Laid on with a trowel.
14. Blake: Ideas of Good and Evil.
16. Byron: Childe Harold.
21. Hagiar Kim and Mnaidra.
23. Current.
28. Tiddie.
- DOWN
1. Anag. Diana.
2. Boxer.
4. Swinburne: Atalanta in Calydon.
6. Longfellow: Golden Legend.
10. Becomes A SRU.
17. Traffic signals.
18. Solomon's, ends with amir.
- 29, 37 Ac. Shelley: Dream of the Unknown.
30. Anag. odour.
32. House-breaker.

Books and Authors

Prophets and Poets

William Blake. By J. Middleton Murry. Cape. 10s. 6d.

William Blake. By Alan Clutton-Brock. Duckworth. 2s.

The Lord Fish. By Walter de la Mare. Faber. 10s. 6d.

Reviewed by G. K. CHESTERTON

YOU will all be depressed to hear that I am going to talk about Mysticism. Mysticism is a mystery—it is a mystery to sceptics, because they do not understand it; it is a mystery to mystics, because they do. My remarks to-day will concern three books, two the studies of a great mystic now dead for a century, the third by a modern writer with a very special mystical vein. The first book curiously combines the two mysteries of the sceptic and the mystic—Mr. Middleton Murry's very valuable and stimulating *William Blake*. As the first example Mr. Middleton Murry is himself both a sceptic and a mystic and in a rather peculiar way of his own. In this book he describes what we commonly call religion as idolatry. Oddly enough I myself feel, especially in his case, that it is the absence of religion that produces idolatry. Now if I say that he idolatrisers William Blake I do not in the least mean that he admires William Blake too much. Nobody could admire William Blake too much—one does not admire Dante or Michelangelo too much, but only conceivably for the wrong reasons. I mean by idolatry something more dogmatic; I mean that Mr. Murry is so passionately pious—I might say so abjectly devotional—he has such an elemental appetite for religion, that he worships what he admires; that is, he worships it as an absolute and even as an origin. He says here that Blake was a good Communist, and it reminds me a little of the Communist view of Karl Marx. We know that cry from Moscow like the Muslim cry ringing through the world—the cry from Moscow: 'There is no God, and Marx is no prophet'. That is how he takes Blake in this book—not as the last prophet, not even as the best prophet, but as the first prophet, as if he had no background and no beginnings.

The book opens with some pages of very singular beauty and power about the direct effect of imagination and its real reality; how it clarifies all objects under a new light; and illustrates it by one of Blake's most perfect lyrics. It is a lyric about children, and perhaps it is right to begin with the very soul of childhood. But he says nothing at all about the childhood of Blake; for that matter he says nothing about the manhood of Blake save for an interesting theory about his marriage. In this book Blake starts out as a full-grown prophet like those great grey-bearded figures that Blake drew, each of them looking like the Ancient of Days. Blake is from the beginning; he is a primitive thing like Adam or even God. Now I may have a weakness for idolatry, but this is idolatry. What strikes me about Blake is that he was a mystic, and that he had the huge disadvantage of being a modern mystic—that is, he was a mystic ignorant of mysticism, or at least of the history of mysticism. Nobody, of course, could expect Mr. Murry to give the history of mysticism when he has not even room for the history of Blake. But there was a history of Blake, and, much more important, there was a place of Blake in history.

Mr. Murry hits the right nail on the head splendidly on one historical point. He insists on Blake's hatred of the Deists and the new scientific rationalists. He insists, of course, that Blake hated equally both the old theologies and the mere logic of the new rationalists. Logically, as two points marked on the blank map of Urizen, this is doubtless true; but historically, as of a human being, the things were very different. Blake knew all about the Age of Reason; he was a friend of pain, he lived in it, he loathed it. Blake knew nothing about the Ages of Faith—he might have loathed them, but, in many ways, he would have loved them. Both ages would probably have discouraged him from walking about naked in his garden and saying he was Adam, but in the Middle Ages he would really have found out that he was not the first man or the first mystic. And I think he would have been happier if he had lived with other mystics, for, with all respect to this great genius and essentially noble spirit, it seems to me obvious that Blake floundered through all the first fallacies and false simplifications to which generous youth is always tempted. We have the regular symptom of the young thinker saying 'There is no evil'; which invariably ends in his screaming aloud that the whole world is evil because it will not believe that there is no evil. Blake proclaimed universal forgiveness, and the outcome was his epigram on his patron:

To forgive enemies Haley does pretend,
Who never in his life forgave a friend.

Mr. Murry himself admits that the break in the Prophetic Books was due to Blake discovering for the first time that there might be faults on his side, as well as on his wife's, in a family quarrel. That is the nuisance about being the first man and the only original mystic—that you have to write about six

laborious and unintelligible volumes before it even occurs to you that you may possibly be wrong yourself, and that sex is not quite so simple in practice as it is in theory. So the passing and patronising allusions of Mr. Murry to orthodox religion make me laugh a little, for I can see for myself that Blake was blundering like a blind giant in a jungle for want of that very guidance which the old orthodox mystics could have given him. He did not know the old controversy about the Gnostics and the Manichees, and all kinds of things which I know, that Blake did not know, and which I rather suspect Mr. Middleton Murry does not know. To mention one point. I know not what moral theology ever stated what he incessantly repeats—Woman's love is sin. I think it was an effect of the stale and stuffy modern world in which Blake, and Middleton Murry, and myself, and everybody else, have to live. Anyhow, I am sure that Mr. Murry is wrong in beginning all philosophy with Blake, and all politics with Marx. He yields too much to his beautiful gift of faith and religious devotion.

I hope I have not given the impression that Mr. Murry's profound and sympathetic study is made monotonous by the slight tinge of fanaticism, but if anyone wants the book balanced by another of excellent proportion and judgment, he could not do better than read the small short book on Blake of Mr. Alan Clutton-Brock. He gives the setting which the other is rather too transcendental to give, but mentions the same transcendental truths. He also lets an independent sense of humour play over the whole subject, and some of his comments are excellent, as this, on the 'Songs of Innocence': 'The two books together are the most important collection of Blake's most perfect and intelligible poems—indeed, it has required the labours of many critics to show how intelligible some of them are'.

As a third type of the mystical spirit I should like to take a man of genius of our own time—Mr. Walter de la Mare—whose angle of attack is totally different, above all in the fact that it is not an attack at all. All the rest are in a tangle—Blake was very controversial, Mr. Middleton Murry is very controversial, I am very controversial. But Mr. Walter de la Mare has marched straight into the very heart of fairyland without needing to fight a battle. I have said that the first pages of Mr. Murry's book are those which deal with the imagination. I am sure the best poems of Blake are those which depend directly on the imagination. Unfortunately, Blake and his biographer are involved in a quarrel between imagination and reason. Now Mr. de la Mare does not fight with reason, he simply goes straight to imagination, and, it seems to me, that he finds the right road.

His last book, *The Lord Fish*, is ostensibly a book of fairytales. But it is much more; it is the book of the grown-up man who loves fairytales, who loves his fairyland, and has lost his fairyland. When we were children and read that a beanstalk grew up into the sky, we did not need a description of sky or beanstalk—both were vivid to us in every detail. Mr. de la Mare tells the beanstalk story again, filling it up with very vivid details; as how when it was burnt the burning was visible from seven counties, or the ends of the beanstalk were left curling and shrivelling in tendrils disappearing into the sky. But we could have guessed all that with our own childish imagination with that vivid sense of reality, without words or with very few words, which was what Blake admired in childhood, and Middleton Murry admires in Blake. The difference is this: Mr. de la Mare is willing to admit that he has lost something, that he is farther off from Heaven than when he was a boy; therefore, he has to fill up the blanks with detail which would have been filled up with imagination. But then, Mr. de la Mare is not setting up to be the first prophet or the first man like Karl Marx or Middleton Murry, or, in his weaker moments, William Blake. De la Mare is content to accept what we poor mystics call 'the fall'—that is, something that has gone wrong between us and childhood, or between us and Eden. De la Mare is not a prophet leading a march of progress; he is content to do what Mr. Middleton Murry tells him to do but does not do himself—to accept the direct inspiration of the imagination.

By this he has kept clear of the domain of Urizen, or the tyranny of abstractions. A stone or a shrub in Mr. de la Mare's writing really is what it is supposed to be in Mr. Middleton Murry's artistic philosophy, a reality ringed with a sort of secret detachment and imaginative intensity. I do not know what is the moral. Is it that Mr. Murry should say what is to be done, and Mr. de la Mare do it?—or is it perhaps that prophets and poets should be separated and each allowed to do their own job?

Popular Illusions and World Chaos

The Great Illusion, 1933. By Norman Angell. Heinemann. 6s.

From Chaos to Control. By Norman Angell. Allen and Unwin. 4s. 6d.

Reviewed by FRANCIS W. HIRST

SIR NORMAN ANGELL is a stimulating writer, and everyone who wishes to be an enlightened patriot as well as a good citizen of the world should read these two books carefully; with a critical eye, not only for the logic, but also for the propositions he is asked to accept. The 1933 book, which runs to nearly 400 pages, falls into three parts. The first is an introductory statement bringing the arguments up to date and showing how and why the fallacies exposed in *The Great Illusion* still prevent a settlement of debts and disarmaments, hamper the development of the League of Nations, and obstruct recovery from the Economic Depression. Part II is a summarised and rearranged version of *The Great Illusion*. Part III is described as notes on post-war vindications of *The Great Illusion* thesis—the verdict of events. Sir Norman Angell asks readers to note: 'I have never said or implied in any book, anywhere or at any time, that war had become impossible, or that it could not be financed, or that it could last only a few weeks'. What he sought to prove was that war, even a victorious war, could not benefit any of the nations concerned and that an indemnity might be even worse for the victor who received it than for the vanquished who paid it. After answering various objections to his theories our author goes on to admit that he should have 'devoted more attention to clarifying certain points of fundamental philosophy, the data of which are to be found, not in the Blue Books or histories, or in statistics, but in the facts of our daily life and behaviour'. This theme he develops both in his new edition of *The Great Illusion* and in his Halley Stewart lecture *From Chaos to Control*.

Here one may observe that Sir Norman Angell has become not only a national but an international socialist; and the validity of his arguments in many cases depends upon whether we agree with his assumptions, and whether we think his illustrations and quotations are fair and typical. If his assumptions are false, or we think them so, there is no reason why anyone should abandon the ideals of Cobden—peace, non-intervention, individual liberty, freedom of trade, private property and public economy, for those of Sir Norman Angell and his socialist friends who believe in some form or other of state socialism, and also, it would seem, as a cure for war, of an inter-state socialism crowned by a great military and naval super-power.

At the beginning of his *Chaos to Control* lecture, Sir Norman Angell modestly refers to six other Englishmen 'who have greater authority' to suggest a way of escape from the Economic Crisis 'than any other six men in the world'. A few pages later he declares that 'not only the six experts, but all the experts in the world, are broadly in agreement that those things ought to be done'. It appears from the context that 'those things' are the two tasks first of cancelling all war debts and reparations, secondly of abolishing all tariffs, export bounties, surtaxes, etc., by an automatic scheme of annual reduction. He also quotes the Basle Committee's statement (with which I heartily agree) that the present partial paralysis of the world's commerce 'can only be cured by restoring the free circulation of money and of goods'. The alleged unanimity of the experts in favour of cancelling war debts and establishing free trade is contrasted (page 22) with the alleged fact that 'every nation in the world, including this nation, supported in most cases by the overwhelming mass of popular opinion, is travelling in the exactly opposite direction'. Here, in my opinion, is a false antithesis which deserves attention, since it forms the basis of an argument that the democratic method of government is collapsing owing to the failure of organised education which has not taught the masses to understand 'the mechanism of society', i.e., the principles and plans of which Sir Norman Angell is the advocate. When I look at the names of the six men I see that two are Protectionists, two Free Traders and two doubtful. Taking only two of them (Sir William Beveridge and Mr. J. M. Keynes) you could hardly have a greater contrast than the views which they have put forward respectively on economic policy during the last few years. And if we pass from the six to enquire about the views of economists and experts at large we shall discover that it is almost a case of *quot homines, tot sententiæ*. Neither on monetary, nor on fiscal, nor on financial problems could any practical agreement be reached at the World Conference. Whether the governments or the experts were most at variance I will not try to decide; but I do most vehemently dissent from Sir Norman Angell's judgment that the peoples are mainly responsible not only for the Great War, but for the bad peace and for the evil policies of economic nationalism (and, I would add, of economic socialism) which have been pursued by most governments ever since. In my view the war and the peace and the economic crisis are all mainly

due to the faults of the governments, and certainly not to the so-called *laissez-faire* or capitalist system. The peoples were peaceful enough until they were forced to fight; nor do I believe that, if the terms of the Versailles peace had been reasonable, the Allied governments would have had any serious difficulties with their own peoples. No doubt there is, and always has been, a bad jingo press in countries like Great Britain, the United States and France which enjoy freedom of opinion; but surely Sir Norman Angell enormously exaggerates the power of Mr. Hearst in America and of Lord Beaverbrook in England? In both countries there are plenty of sensible newspapers which have far more influence. Who can doubt that if President Roosevelt had asked for power to make a reasonable settlement of war debts he could have obtained it when he took office in spite of Mr. Hearst?

Lastly, I would challenge our author's frequently repeated statement that '*laissez-faire* has broken down, and if the industrial and financial machinery is to work there must be conscious control'. The old doctrines, we are told, have been abandoned; the capitalist system is doomed; private property and competition are no longer workable; and the world, led by Soviet Russia with its Five Year Plan, has committed itself to socialism. All this is set forth in a chapter of *From Chaos to Control* called 'The Conditions of Successful Planning', which might be entitled 'How to Convert Britain into a Socialist State'. Sir Norman Angell would start by 'rationalising' the nation's markets. 'Bulk purchase, Import Boards, Quotas', he tells us, are certain to come; but Labour cannot get rid of Capitalism quickly if it creates the impression that its objective is the smashing of Capitalism. The wedge must enter at the thin end and not at the thick. What then becomes of freedom of trade? Most of the experts to whom Sir Norman Angell appeals have pointed out that import quotas are much worse than tariffs. As for deliberate planning, we have it in Russia, and the result to date is a terrible famine. If the world is capable of learning by experience I should hope, and I am inclined to think, that it is more likely to revert to freedom than to advance towards systems of state socialism such as exist in Russia, Germany and Italy, where the individuals, for whose welfare the state theoretically exists, are deprived of freedom to speak, freedom to vote and (in Russia) of freedom to trade.

The Hill of Sand

(Colorado)

Twenty miles from trails I found
a hill of sand
shifting a moment away from arid land
which had been village ground.

A spear, a knife, a place for fire;
a bowl for corn:
Indians had made these stone-shapes, born
of early effort and desire.

High on this hill, which always moaned,
shifting in wind,
were Spanish skulls; and stupidly they grinned
to see themselves thus throned.

And those who had washed this sand for gold,
poor willing slaves,
had in the sand but hollowed their own graves;
the hill had a heavy hold.

But there was a lasting thing in the sand,
a painted pot,
a little bowl lingered over in the hot
of spring by shaping hand.
Here the hill had not
enforced its last demand.

FRANKLIN FOLSOM

The Listener's Book Chronicle

Airman's World. By Peter Supf. Routledge. 10s. 6d.

The aspect of the world, and all that is on it, has been changed by the coming of flying—this is the theme of this book, first published in Germany last year and now translated by Cyrus Brooks. The airman tries to convey, in lyrical prose, his sense of escape from limitation, the dreams that come to him in flight, the mystery of speed, the awakening of a new spirit, reverence and alertness, in him. Then he passes on to survey the new world he has explored and conquered—the world of the air. He describes to us the seas of the air, the clouds, and the forms they assume; he pictures for us the airman's dread enemies, fog and thunderstorm, and how he meets them; he lists the 'wonders of the air' which only he who flies is privileged to see. And then, having told us of the air, he tells us also what he sees when he looks down from his plane; mountains, oceans, cities, deserts, and far vistas—and finally living things, both men and animals. The author recounts the route of many of his flights, and compares his own feelings with those of the great explorers and conquerors of the past. What he writes is novel and stimulating enough. But it is no derogation of it to add that even more attractive than his text are the photographs he has collected to illustrate it. This must be the finest budget of aerial photographs yet gathered within the compass of a single book. They are drawn from several sources and many countries, but all have that special quality which the writer tries to convey in his text—of startling beauty of pattern. That is, after all, the airman's main aesthetic experience—he sees new 'arrangements' of the materials which go to make up the universe, and it is the curve of a shore, the movement of a herd or a multitude, the assembly of buildings in a city, the drift of boats on a lake, or the swirl of stormclouds in the upper air, that give him that new thrill which none but those who have severed their contact with the earth, and move about the earth, can know.

A Draft of XXX Cantos. By Ezra Pound

Faber. 7s. 6d.

One begins to fear that the time has come when Mr. Pound needs explaining. Here he is, in the full vigour of his years; and yet somehow, a little oddly, he seems to belong to a tradition already beginning to recede. The truth appears to be that as creator (or re-creator) of a tradition, he has stayed where his originality placed him, while the earth is now loud with his advancing progeny. Something happened to English poetry just before the War: Mr. Pound, Mr. F. S. Flint, and T. E. Hulme, among others—but they seem to have been the chief chemists—manufactured a bomb, dropped it, and by its explosion shattered the old, eroded tradition. They invented (or re-invented) cadence, the direct expression of emotion, of imagination—which is the emotion of the brain—and cleared a space for Mr. Eliot, who would be the last to deny the influence of Mr. Pound; and Mr. Eliot was followed by the new group of poets. In short, we can say: No Pound, no Spender. And here, at last, are the XXX promised Cantos which have been brewing so long, and we recognise them as poetry, which our fathers would not have done. It is not for us to doubt that they are expressions of emotions worthy to be made poetry of, but there seems to be a failure in communication, a point in which Mr. Pound's successors do not fail. The real difficulty is that while it takes almost as much poetic genius to understand a poem as it does to write it, with Mr. Pound it takes also much erudition in early Renaissance life. He does not try us too high with his Greek references, we have a common friend in Arnaut, and Robert Browning we all know; but we are probably not as familiar with the Italian Renaissance as he is. We do not wish to suggest that the Cantos are on the whole a failure; far from it; they induce in us a distinct attitude towards life. Some passages are extremely moving and exciting, but we do not feel that anything approaching the complete communication has been made. We are conscious that something baffles us; and Mr. Pound does not help us by his frequent recourse to half a dozen or so foreign languages.

The mind has to be alert to follow the poem, though this is not to say that it is difficult to read. We swing along gloriously, even when Mr. Pound reduces the rhythmic effect of his cadences till they become, in carefully chosen places, prose. Baffled as we are, the Cantos seem of unequal intensity (no doubt they are meant to be, but sometimes the potential falls too low), so that though some of them are undoubtedly poetic experiences for us, corresponding with some experience of Mr. Pound's, we fail to get the sense of a whole experience, and doubt whether Mr. Pound is writing under the influence of such a feeling. He is most successful where he is either most romantic or most Imagist: he is least so when he deals in intellectual contrasts. What he appears to be doing is to try to show the essential likeness of all times, with their mixture of rapacity, glory, beastliness, beauty, folly and grace. We dart about from Zagreus to

Edward VII, from the thirteenth century to the Great War, and travel from China to Peru—or at least to Rhode Island. Mr. Pound works, indeed, in sets of contrasts: passages of real imagination and vocal beauty alternating with images and words which even the cadences cannot redeem from the charge of being disgusting; nor, of course, are they meant to. The book begins gloriously with the sort of thing Morris would have longed to do in 'Jason', but fell miles short of, and which Landor very nearly did in the longer 'Hellenics'. It is impossible to give extracts, for each part is so closely woven with the context that given alone the meaning disappears; and besides it is the constant swing of the cadences, gaining force by accumulation, keeping an 'unheard' music going all the time in the ear, binding the whole together, that gives each part the musical background against which its own notes can be heard. Further, it is impossible to pass judgment on such a poem. That it gives delight can honestly be said; but what the value, the precise quality of the delight is, can, with such a work as this, only be told when it has had time to open out and flower in the mind, supposing that it does so. Much will remain, some perhaps will fade; but one feels, as one does with all original creative work, that greater familiarity will bring closer understanding. One knows that it is an achievement; but how far it will become a permanent experience, only ripening time can show.

The Cambridge History of the British Empire

Vol. VII. Australia and New Zealand

C.U.P. Part I, 30s. Part II, 15s.

The latest addition to the growing shelf of Cambridge Histories follows the general policy of the whole series. The chapters have been written, with few exceptions, by Australian and New Zealand scholars, each of whom is an authority in his own field. The result is a narrative which is first and foremost sound, scholarly, and authoritative. As a work of reference it will be invaluable to every student of colonial history, and the Cambridge University Press is to be congratulated on the steady progress of an extremely useful undertaking. But the method has its drawbacks as well as its advantages, for even the most skillful editing cannot always impose on a series of separate monographs the balance and unity of conception at which a single historian would aim.

To some extent the volume on New Zealand seems to have surmounted this difficulty. Dr. Hight's introduction, a model of clear-headed generalisation, sets the perspective for the whole book, and the succeeding chapters fall quite naturally into place. No doubt this is partly due to the comparative simplicity of the picture in New Zealand.

Such a young and homogeneous community offers special advantages for the study of human development, particularly in relation to geographical environment and the influence of economic motives. In old countries the precise force of these important determinants of social action is difficult to assess. The physical environment wrought its greatest effects in the remote past, and these and all subsequent effects have long been overlaid or greatly modified by other forces. . . . To disentangle economic motives from other socially effective motives in older communities is a most difficult and complex problem. But in a country like New Zealand, almost free from the play of dynastic, religious, racial and class conflicts and rivalries, the task becomes much easier.

Minor criticisms of course can always be raised. For instance twenty-seven pages are devoted to the relations between the central government and the now extinct provinces, while Mr. Skinner's brilliant account of the Maori race has had to be condensed into just over half that space. On the whole, however, the work of the editors and their adviser has been remarkably successful.

The part which deals with Australia, on the other hand, is not quite so satisfying. In less than 150 years Australia has grown from a miserable penal settlement to a young and vigorous nation. The various stages of political development are traced in careful detail, from the early struggles with the transportation system, through successive problems of land-tenure, autonomy, jealousy, and federation, to the war and the wrangles of yesterday. But in a new country politics are not of paramount importance. They are (in all but a few cases) subordinate to economics; and side by side with the economic history there is the much more elusive question of social history. It is true that the facts and statistics of economic development are to be found in the book—the rapid growth of the wool trade which led to the power of the squatters, the sudden disturbance caused by the gold rushes, the introduction of refrigeration, booms and slumps, the rise of secondary industries, and the failure of post-War reconstruction. But the continuity is obscured by the emphasis on politics; and at no stage does one get a comprehensive picture of what life was (or for that matter is) like in the Dominion. There is no clear description, for instance, of Sydney in the early days—the Sydney of Marsden, Hunter, Macarthur, Atkins, and

Barrington. No adequate account is given of the aborigines. The crudeness, hardships, and glamour of the goldfields somehow disappear under a careful list of statistics. There is, in fact, no attempt to reconstruct 'the Australian scene', and social history is largely neglected.

But one should not, perhaps, lay too much stress on what a book does not do. The political history is there in something approaching definitive form. The facts and the figures are there. And for those who are still not satisfied, the comprehensive bibliography at the end will point the way to further sources of information.

Harun Al Rashid. By H. St. John Philby

Peter Davies. 5s.

MR. ST. JOHN PHILBY warns us in this essay on the life and times of Harun al Rashid—that it is rather than a biography—that he has eschewed the temptation of indenting for material on 'the Thousand and One Nights'. Not for him any unholy alliance between historian and story-teller; Mr. Philby is not in the least dazzled by Harun's splendour as a patron of arts. He deplores the brilliance of the Caliph's court which had for its corollary gross financial oppression of the unhappy provincials. He doubts whether music—in any case a 'questionable pleasure' to the good Muslim—attained any such excellence under Harun's patronage as posterity has generally believed. And Mr. Philby sees in the almost unparalleled extravagance of a reign of twenty-three years 'the spectacle of a heart beating fast and furiously in a paroxysm of fever which was reducing the body of an empire to the extremes of sickness and misery'. In short the magnificent, wine-loving, and dissolute Abbasid—though his enjoyment of female charm, Mr. Philby observes, was well within the four corners of the Prophet's dispensation—had slipped far away from the primitive simplicity of Bedawin modes, a matter of national regret to an Englishman who has found spiritual truth in the strictest tenets of Islam.

The sin of the Abbasid Caliphate was, in his opinion, the adoption of the culture of Persia, and only the church still 'based on the primitive principles of Arabia' was able to survive the wreck of the Empire. Yet Harun was a pious Muslim and took his functions as spiritual head of Islam very seriously. Philip II of Spain did not give more time to his daily devotions than the pleasure-seeking Sultan. His benefactions to Mecca and his public works along the pilgrim highway between the Holy City and Baghdad afford Mr. Philby instances for unqualified approval of the character round whom he has written a provocative little book. It positively bristles with moral, social and political questions. To mention only some of those in the last category, one wonders, for instance, how, if the administration under the Barmak family were as corrupt as it is generally described, Baghdad became one of the principal marts of the world. More than this, for the commercial community in the Capital, allowed a freedom to organise itself never enjoyed in the same measure by the merchants in the Byzantine Empire, despite its far more highly developed legal and administrative systems, was able to organise the system of trade guilds which have had a permanent influence on civilisation.

The wider question, whether it is possible for the Arab to keep his qualities when he leaves his deserts behind him, is also insistent throughout Mr. Philby's pages. For we have today in Arabia a ruler whom Mr. Philby whole-heartedly admires. King Ibn Sa'ud, now that King Feisal is dead, stands out unquestionably as the most prominent personage in the Arab world. Will this very able, ambitious, and patriotic Arab be content with his kingdom, which is, after all, only a province or two—and those the poorest—of the Arabian peninsula? Or will he look to Baghdad, and—who knows?—Damascus, in the hope of reviving that Empire which for centuries has bemused the politically-minded Arab?

Von Hipper. By Captain von Waldeyer Hartz

Rich and Cowan. 20s.

The purpose of Captain von Waldeyer Hartz in writing this book is wider than that of a biographer. He is concerned first of all to demonstrate that the German High Seas Fleet was a match for the British Grand Fleet, though the issue was never finally brought to trial, and that Germany is entitled, both by her position and her capabilities, to be considered a great naval power. It is unfortunate that the task is conceived in a very propagandist spirit. The style of the book is thereby rendered lifeless and conventionally heroic, whereas there is plenty of material which, if used in a more realistic way, would have allowed at least a large part of this thesis to emerge as true. Ethnological quasi-science and eulogy of the militaristic spirit are almost inevitable in any book coming from Germany today. They are quite unnecessary in an attempt to prove that German seamen are capable of gallantry and first-class seamanship, and that some of their leaders have been men of genius in their field. It is characteristic of this frame of mind, too, that the utmost horror is expressed about the mutineers of 1918; whereas the selfish intrigue and irresolution at the centre of government,

which hampered and almost paralysed the High Seas Fleet during the whole of the first part of the War, should be passed over with the mild epithet 'unfortunate', and without any attempt to apportion blame or responsibility.

It is doubly unfortunate that this style should have been adopted, since the life of von Hipper affords just the kind of material needed for a much better book. He commanded the *reconnaissance* forces of the German fleet throughout most of the War, proved himself at least a match for his opposite number, Beatty, at Jutland, directed the mine-laying and sweeping operations, and was made Commander in Chief late in the War, just as the spread of mutiny began to make large scale operations impossible. In spite of this bad luck he was able amply to prove his tactical genius and seamanship both at the Dogger Bank action and at Jutland, and his strategic grasp by advice which was much of it afterwards proved to have been justified. Had more attention been paid to it, it is possible that a decisive action would have occurred much earlier in the War, and the British blockade might have been rendered far less effective, even if it had not been destroyed. As it was, the famous Operation Order, which seemed to envisage the High Seas Fleet more as a bargaining counter for the peace than as an effective weapon, continued almost to the end to exercise its baleful influence over German strategy, until the addition of the American forces to our own rendered the odds overwhelming. It is typical of the lack of realism of German calculations that this factor should receive no single mention by the author in considering German strategy during the last year of the War.

The glimpses which we get of the actual character of von Hipper, though few, are attractive. He seems to have been both modest and self-contained, but with great intelligence and courage displayed in action rather than in counsel, a type of man whose merit does not fully appear except in his work. For a full appreciation of this the present study is insufficient, but there are some unforgettable pictures of the various actions from the German side, which should be better known to British readers. One is of the *Von der Tann*, at Jutland, maintaining her place in the line with all her heavy armament disabled, in order to draw enemy fire away from more effective units. Another is the return of the *Seydlitz* after that action, brought safely to harbour by her ship's company although her decks were almost awash and she had a list of eight degrees. For these alone the book would be worth reading.

Good Housekeeping. By D. D. Cottingham Taylor

Good Housekeeping. 7s. 6d.

'The work of any house, irrespective of its size, should be organised as a man organises his business, for without organisation time and energy will be wasted'. In fact today the housewife must organise as well as produce; and here *Good Housekeeping*, from which the above quotation is taken, repays the reader for the very careful study it exacts. The chapters on Budgeting the Income, Organised Housework and Servants' Duties, The Kitchen, Marketing (with its excellent diagrams of cuts of meat), and Food Values suggest the way to a comfortable, happy household. Parents should find great interest in the Specimen Diet Sheets for Girls' and Boys' Schools, but they might well protest at the cost of meat extracts or essences once or twice a week for supper, since children are not in need of stimulant as against nourishment. Indeed the excellence of the advice on food values is not always reached in the suggestions for putting them into practice; and that is one's main criticism against the greater part of the book. The chapters on Heating the Country and Town House and Water Heating undoubtedly give many ideas, e.g., the combined gas and coal fire, but in a book more useful to the buyer or builder of the modern house than to the rent-payer, one must quarrel with the statement 'the greatest advantage of all, however, is undoubtedly the fact that one can accomplish with gas what cannot be accomplished by solid fuels or at all easily by electricity'.

The amateur should, nevertheless, find the two chapters on home decoration most helpful; and incidentally, unlike the rest of this section, these chapters are practical for a wider public than the comparatively well-to-do. The chapters on buying, choosing, and planning a house are frankly disappointing and inadequate. It would, for example, have been of considerable assistance if some discussion had been included of the contract one enters into with an architect, or if one had been told which of the bewildering multiplicity of officials one approaches on such matters as drainage in the country. 'Buying a house on mortgage is a safe investment'—such an assertion in the world of today makes one fear for the housewife who follows advice blindly. The Mrs. Beeton of today, however, has a far tougher proposition than her original. It is impossible to write for all households and for any time but the present—a fact which *Good Housekeeping* does not always appear to recognise. The modern housewife can count on today but not on tomorrow. This year's economy may be next year's extravagance. One feels sure that Mrs. Cottingham Taylor would agree that no book can be the housewife's infallible guide and philosopher, but it can be, as is her book, a very interesting and stimulating friend.

New Novels

Great Circle. By Conrad Aiken. Wishart. 7s. 6d.

A Nest of Simple Folk. By Seán O'Faoláin. Cape. 7s. 6d.

Twice Shy. By D. M. Low. Chatto and Windus. 7s. 6d.

Reviewed by EDWIN MUIR

GREAT CIRCLE is a remarkable novel and a notable addition to a definite class which includes most of the best of contemporary fiction. In other words it is technically inventive and skilful, penetrates far more exhaustively into experience than the traditional novel as it is written today, but at the same time fails to achieve an imaginative resolution of the action, and substitutes for that a moral one. Novels of this kind are generally concerned with the development of a single character; *Sons and Lovers* and *A Portrait of the Artist as a Young Man* are probably the best examples (for the class is a highly respectable one); and all, it seems, that a novel of development can achieve in the way of a resolution is to leave the hero at the end experiencing a more than usually vivid illumination or coming to a more than usually firm resolution. Paul in *Sons and Lovers* marches towards the city lights with clenched fists, resolved, it is hard to say on what. Stephen in *A Portrait of the Artist as a Young Man* ends by proclaiming his artistic creed and his decision to be an artist. He might have done so at several other points in the last third of the book, and Paul might have clenched his fists as many times without our attaching any special significance to it; but this last resolution, this last clench, seeing that it comes at the very end, must be, we are asked to assume, of a completely different kind. This is the act of faith that the novel of development demands from us. The novelist asks us to forget that life will go on again afterwards, that there are millions of people who have clenched their fists and made resolutions which did not hold, and thousands who have decided to be artists and proclaimed their artistic creeds (which are generally somewhat modified in a few years). In short, after describing with incorruptible honesty a given stretch of experience, the novelist flings himself blindly at a hope or a vague wish-fulfilment, at something which is quite different in nature from life as he has just been recording it. So the novel of development ends almost invariably, after a strict fidelity to truth, on the plane of moral hope. The problem of how to find a satisfactory end to it at all is, indeed, an extremely difficult one; for though this sentimental resolution is obviously none, what conclusion can be set to the story of an individual development except death, which is the only absolute terminus of development? Franz Kafka with his infallible justice in sizing up a situation saw the difficulty clearly and dealt with it in the shortest way. *The Castle*, which is the story of the hero's quest for salvation, for something representing a final illumination, he did not finish at all; but the end he had sketched out for it was almost equally edifying. The hero is told on his deathbed that henceforth he may live assured of his victory, though he has no inherent right to it and it has been granted him simply in consideration of certain auxiliary considerations. Such a solution of the problem makes all others look romantic. And when the hero of *Great Circle* soliloquises inwardly in the last paragraph: 'Life was good—life was going to be good. Unexplored, unfathomable, marvellous and terrible. Filthy, and incalculable. Cruel, and inexhaustible. Like this unceasing swarm of bright rain-drips, like the waves beating on the beach at the Gurnett, innumerable as the atoms in the brain', one seems to be listening to the last cries of countless novelists shouting to keep their hearts up in the darkness that descends so inevitably when one is finishing a novel that is not really finished.

Great Circle belongs to this class, but it is a very remarkable specimen of its kind. Andrew Cather receives a letter hinting that his wife is unfaithful to him. He hurries home when she is not expecting him and finds her with her lover, who is one of his oldest friends. There is a violent scene and Andrew leaves the house and his wife in a rage. That is the statement of the theme. The second section consists of memories of Andrew's boyhood at the seaside, memories tinged with suspicion of his mother, who was living apart from her husband at the time and secretly carrying on a love affair with another man: the couple are finally drowned in a storm and Andrew discovers their bodies. This section, one fancies, is intended as a variation on the original theme and also to suggest the stage of regression: Andrew's mind, unable to endure present misery, flies to his childhood for help. The third section, an astonishing *tour de force*, contains nothing but a long dialogue between Andrew and a friend who is a psychoanalyst. Here all that would technically be called the unconscious content of the situation is poured out in a stream of confessions, apparently fortuitous and sometimes even disingenuous, yet moving towards a solution which always seems to

be becoming clearer. After this emotional orgy Andrew (who has been drinking all the time) falls into an uneasy nightmare which gradually fades into calm and happy dreams of his childhood, and from these he at last awakens in his right mind, with all the passion and confusion cleared away. He decides to have a talk with his wife, and before he returns to live with her finally decides to drive down to the seaside resort where he had passed his boyhood. It is during this drive that the illumination comes to him, the chief heads of which are quoted above.

It would be hard to overpraise the sincerity, the psychological skill and technical brilliance of this novel. The dialogue section in particular is an amazing feat of sustained invention and various eloquence. But in spite of all its virtues the book only proves again that from no investigation of the contents of the subconscious, however profound or exhaustive, can a catharsis be extracted. After the furious outpouring of the psychoanalytic section, the dreams and the quiet awakening do become plausible, and for the author to have achieved that was a feat of remarkable finesse. But what he intends to stand for the real catharsis—'Life was good', etc.—is not deducible from the analysis at all, nor is anything more than the alleviation of a very painful but temporary state. Mr. Aiken does cast light into the abysses of human passion, however, and deals until very near the end with real and immediate things, touching one on the raw repeatedly. Such a thing happens very seldom in a novel, and so *Great Circle* is worth very serious perusal. It is, besides, both painfully and pleasurably exciting to read.

A Nest of Simple Folk is a disconcerting book. Obviously the work of a writer of talent, it is, though seriously intended, so haphazard in characterisation and plot that it almost reminds one now and then of the free-and-easy Samuel Lover. The action covers seventy-two years and ends with the outbreak of the Easter Rising in 1916. A novel planned on such ample historical lines should, one feels, give some impression of the growth of national feeling that could find expression in such an extraordinary outburst. But Mr. O'Faoláin is fatally easy; the action gives the feeling of being continuously improvised, the characters of being created and recreated at will; so that the first has no discoverable necessity and the latter have no very salient outline. Leo Donnel, the hero, is an ordinary ne'er-do-well; yet it is hard to tell whether the casual impression he produces is inherent in his character or in the manner in which he is presented. Born in 1840, he lives until the Easter Rising, a failure successively as a gentleman, a farmer, a Fenian, a shop-keeper, a gun-runner, with two long terms in prison that make only a slightly emptier blank in his blank existence. John Hussey, the respectable police sergeant with whom he is contrasted, is only a little more alive. The aim of the book seems to be breadth: there are a great many characters and a great many scenes; but breadth without exactitude of detail is apt to fade into featurelessness. The scenes in the first few chapters are easily the best in the book; and the description of old John O'Donnell's death shows that Mr. O'Faoláin is a writer of power and originality. Apart from these scenes the best passages are the descriptive ones evoking the soft pastoral landscape of the Shannon and the moth-eaten charm of Cork. Some of these are exquisite and full of spontaneous pleasure in beauty. The book, indeed, is so uneven, so good and so bad, that it keeps one in a see-saw of delight and exasperation.

Twice Shy is an unusually amusing and intelligent comedy describing a year's life in a little Italian watering-place which has an English season. Mr. Low has taken the precaution of making the characters he satirises human, a precaution that for some reason is generally omitted by writers who describe English life in foreign places. It is a pity that he has so far conformed to type as to include a portrait of a wise, pagan, middle-aged and faintly satyr-like philosopher, but in excuse it may be granted that his portrait is better, because more lifelike, than most. Indeed, all his portraits are admirably lifelike, and the comedy is neither forced nor cheap. The book is well planned and well written and very amusing.

Mr. Muir also recommends: *About Levy*, by Arthur Calder-Marshall (Cape); *The Proselyte*, by Susan Ertz (Hodder and Stoughton); *Echoes in the Dark*, by Kenneth Champion Thomas (Peter Davies); *So a Poor Ghost*, by Edward Thompson (Macmillan); and *Tropical Winter*, by Joseph Hergesheimer (Cassell)—all 7s. 6d.